PHASE II ARCHAEOLOGICAL EXCAVATIONS THE FORD FARM SITE, LOCUS E (7K-C-386E) AND PHASE I INVESTIGATION OF SCARBOROUGH ROAD STORMWATER BASINS/STOCKPILE AREAS AND WETLAND REPLACEMENT AREAS KENT COUNTY, DELAWARE

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Prepared By:

Robert D. Wall, Philip E. Pendleton, Martha H. Bowers, John C. Bedell, and Charles H. LeeDecker

THE CULTURAL RESOURCE GROUP
LOUIS BERGER & ASSOCIATES, INC.
Washington, DC

Eugene E. Abbott
Director of Planning

Delaware
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By

Robert D. Wall, Philip E. Pendleton, Martha H. Bowers
John C. Bedell, and Charles H. LeeDecker

The Cultural Resource Group
LOUIS BERGER & ASSOCIATES, INC.
100 Halsted Street
East Orange, New Jersey 07019

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✦

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ABSTRACT

The Cultural Resource Group of Louis Berger & Associates, Inc. (Berger), has conducted Phase I archaeological investigations of three proposed stormwater basins/stockpile areas and two wetland replacement areas, and Phase II archaeological investigations of the Ford Farm Site, Locus E (7K-C-386E). The Ford Farm Site and the Phase I survey areas are located within the proposed Scarborough Road corridor from McKee Road to U.S. Route 13, in Kent County, Delaware. The work was carried out in accordance with a proposal prepared under Parent Agreement No. 729-2, for the Delaware Department of Transportation, Division of Highways.

The Phase I archaeological surveys included the excavation of 173 close-interval shovel tests placed within the three proposed stormwater basins/stockpile areas and the two wetland replacement areas. Recoveries included only isolated finds of historic and prehistoric artifacts. None of these finds indicated the presence of more substantive remains nearby.

The Phase II investigations were designed to delineate the extent and depth of buried occupations that had been encountered during a previous Phase I study at the Ford Farm Site. The Phase II excavations at the site consisted of 19 shovel tests, six 1x1-meter test units, three 1x2-meter test units, three expanded 1x2-meter test units, one 2x2-meter test unit, and two Phase I unit extensions measuring 30x50 centimeters each. The Phase II investigations provided evidence of a very sparse scatter of prehistoric artifacts in both plowzone and subplowzone contexts. The subplowzone occupations at the site consist of Woodland I (Early Woodland and probable Archaic) period components, defined by Marcey Creek, Wolfe Neck, and Dames Quarter ceramics, and a deeper but very sparse lithic scatter lacking diagnostic artifacts.

The spatial patterning of these artifacts seems to indicate that the Woodland I component is concentrated near the southern end of the site. The deeply buried lithic scatter is also confined to the southern portion of the site. In the western portion of the site, artifacts were found only in the plowzone and in the B-horizon immediately below the plowzone. Field investigations identified no features in any part of the site, and reevaluation of a feature identified during the previous, Phase I, investigation revealed it to be a tree root stain, extensive in area but devoid of artifacts. The diagnostic lithic artifacts recovered include one projectile point of probable Woodland I (Late Archaic/Early Woodland) affiliation. The ceramic wares recovered all appear to be Early Woodland. It is noteworthy that several Woodland I (Early Woodland) ceramic wares are represented in a very limited collection.

It is the opinion of the investigator that no sites meeting the criteria of eligibility for the National Register of Historic Places were located in any of the Phase I survey areas, nor does the Ford Farm Site (7K-C-386E) appear to be eligible for the National Register. Based on the negative findings in all three stormwater basin survey areas and the two wetland replacement survey areas and the limited Phase II findings at Ford Farm, it is recommended that no further work be undertaken for this project.

ACKNOWLEDGMENTS

The Cultural Resource Group of Louis Berger & Associates, Inc., is most appreciative of the assistance provided by a number of individuals from both the public and private sector. The Federal Highway Administration (FHWA) and the Delaware Department of Transportation (DelDOT) funded the archaeological investigations. John J. Gilbert, Division Administrator for the FHWA, and Robert Kleinburd, Environmental Officer, assisted with securing the necessary financial support for the project. Support and administration were also provided by the Division of Planning at DelDOT, especially by Eugene E. Abbott, Director; Raymond D. Richter, Assistant Director, Preconstruction; Joseph Wutka, Jr., Manager, Project Development; Theresa Fulmer, Environmental Studies Manager; Kevin Cunningham, Archaeologist; Loretta Brisbane, Secretary; and Annamay Decker, Project Scheduling and Support. A special note of thanks is extended to Kevin Cunningham for providing the necessary technical assistance from DelDOT to efficiently carry out the fieldwork and for providing feedback regarding field strategies and general interpretations of site contexts.

Grateful acknowledgment is also given to members of the Delaware historic preservation agencies for their advice, guidance, and field visits: in particular, Daniel R. Griffith, Director and State Historic Preservation Officer, and members of the Delaware State Historic Preservation Office, Joan Larrivee, Deputy State Historic Preservation Officer, and Gwen Davis Coffin, Archaeologist, who took the time to visit the site during the Phase II excavations and provided appreciated input regarding site interpretations.

Robert Wall directed the Phase II effort and wrote the present report. Martha Bowers and Philip Pendleton contributed the historical background information for the project. Invaluable assistance in the field was provided by Field Supervisor Henry Holt and Crew Chiefs Doug Tilley and Jim Skocik. Field logistical support was provided by Charles Dunton. The field crew consisted of Charles Bedall, Teresa Brannon, Joelle Browning, Dawn Corbett, Andrea Denight, Heather Fener, Dave Gilmour, Keith Googins, Dell Gould, Brian McAllister, Sara Rakus, Catherine Skocic, Paul Stansfield, and Keith Young.

Ludomir Lozny examined the stone tool assemblage and contributed his expertise in lithic analysis. Robert Wall conducted the ceramic analysis and completed the final lithic analysis. Historic artifacts were analyzed by Meta Janowitz, Mallory Gordon, Christy Roper, and Gerard Scharfenberger. Laboratory processing and the cataloging of artifacts were supervised by Sharla Azizi and performed by laboratory technicians Matthew Doherty, Sau Chun Wong, and Magdalene Lozny. Data entry was accomplished by Rudy Alexander Ortiz. Drafting of the graphic material for this project was conducted by Victor Reynolds and Jacqueline Horsford. Rob Tucher and Josh Lasco produced the plates that appear in the report. Editorial assistance was provided by Valerie Moore and Suzanne Szanto.

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

LIST OF FIGURES

LIST OF TABLES

LIST OF PLATES

I. INTRODUCTION

The Cultural Resource Group of Louis Berger & Associates, Inc. (Berger), has undertaken Phase II archaeological investigations of Site 7K-C-386E, the Ford Farm Site (Locus E) (Plate 1), on behalf of the Delaware Department of Transportation (DelDOT), which sponsored the excavations. The study has been carried out in accordance with the instructions and intents of Section 101(b)(4) of the National Environmental Policy Act; Section 1(3) and 2(b) of Executive Order 11593; Section 106 of the National Historic Preservation Act; 36 CFR 771, as amended; the guidelines developed by the Advisory Council on Historic Preservation, published November 26, 1980; and the amended Procedures for the Protection of Historic and Cultural Properties, as set forth in 36 CFR 800. As a recipient of funding from the Federal Highway Administration, DelDOT undertook this investigation to comply with federal cultural resource management policies that require consideration of the effects of construction on significant historic or prehistoric resources.

The Ford Farm Site, Locus E, was initially identified during a Phase I survey of the proposed Scarborough Road corridor from McKee Road to U.S. Route 13/Dupont Highway, in Kent County, Delaware (Heite and Blume 1992, 1995a). Locus E of the Ford Farm Site lies almost entirely within the proposed corridor and would therefore be destroyed by the proposed construction. The Phase II investigations of Locus E were conducted by Berger between May 27 and June 17, 1997. Phase I investigations of three proposed stormwater basins/stockpile areas were undertaken during this period as well. Phase I investigations were also conducted for two wetland replacement areas.

The Phase II field research at the Ford Farm Site, Locus E, was designed to delineate the boundaries of the site locus, to determine the nature and depth of its deepest occupations, and ultimately to ascertain its National Register eligibility. The Phase I investigations at the site (Heite and Blume 1992, 1995a) had recovered prehistoric artifacts from both shallow and deep contexts in Locus E. Additional artifacts, both historic and prehistoric, were recovered from Locus E during Berger's Phase II investigations.

The Phase I investigations of the stormwater basins and wetland replacement areas were undertaken to supplement previous Phase I work on the project corridor (Heite and Blume 1992). The additional Phase I work was necessitated by changes made to the project design which modified the original area of potential effect. Of particular concern was the Stormwater Basin No. 3 area, located adjacent to the White Marsh Site (7K-C-390), a prehistoric archaeological site investigated as part of the original Phase I survey of the project corridor (Heite and Blume 1992). Although no sites were located as a result of Berger's supplemental survey, a few isolated finds were recovered.

Artifact inventories both for Berger's Phase I supplemental surveys and for the Phase II work at the Ford Farm Site, Locus E, are provided in Appendices A, B, and C. The results of flotation analysis of samples from the Ford Farm Site are presented in Appendix D. The resume of Berger's Principal Investigator for the project is provided in Appendix E. A copy of the handout prepared for distribution during fieldwork to interested members of the public is included as Appendix F.

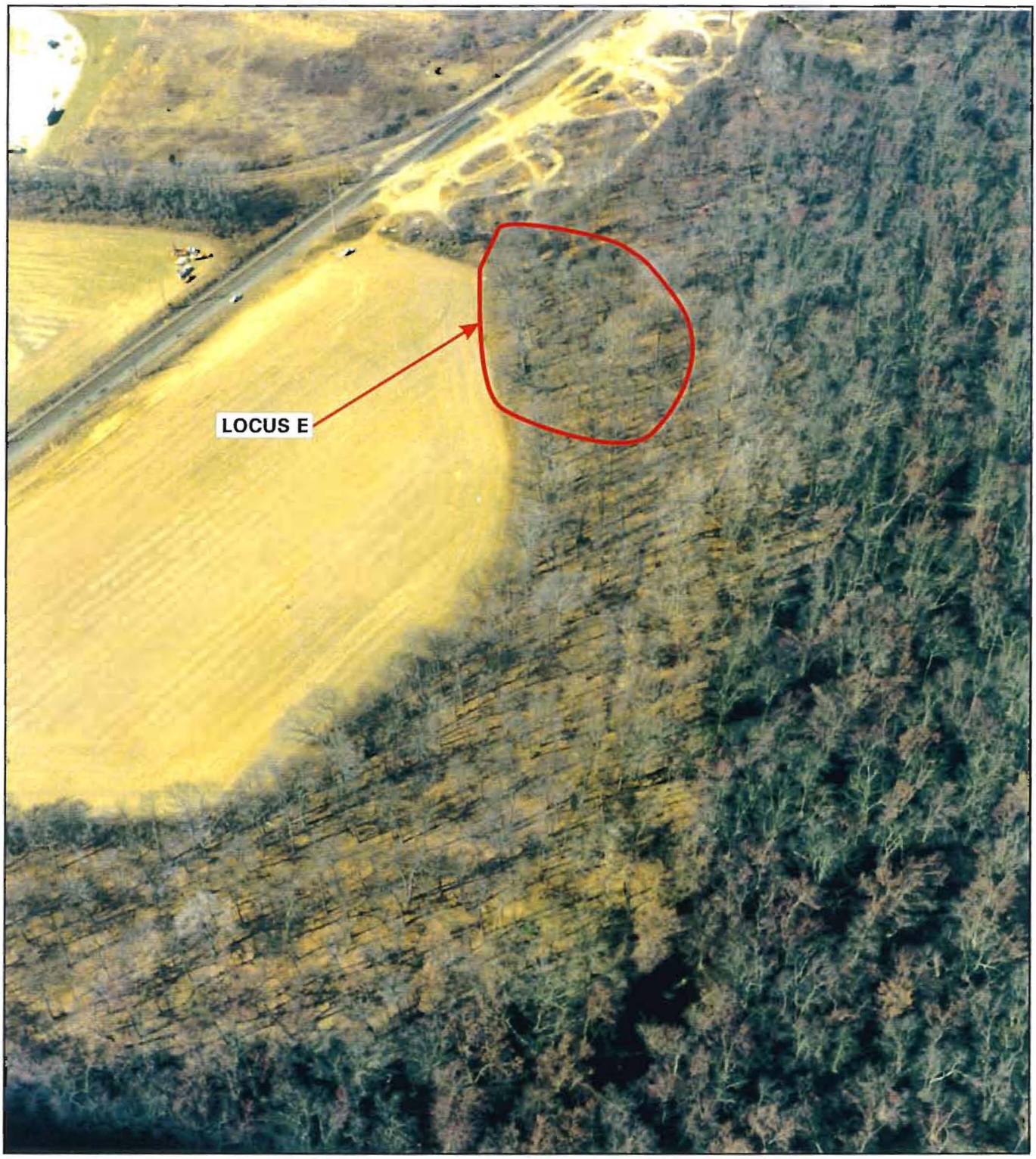

PLATE 1: Aerial View of Ford Farm Site Area

II. PROPERTY DESCRIPTION

A. Description of Ford Farm Site and Survey Areas

The Ford Farm Site, Locus E (7K-C-386E), is a multicomponent prehistoric archaeological site located on a bluff overlooking the St. Jones River, which flows southeast past the site to the Delaware coastline. The site measures approximately 40 meters (131 feet) north to south and 70 meters (230 feet) east to west, and is bounded on the north by wetlands along the river. The site is currently wooded, and there are large beech trees present on the site. Just west of the site, extensive surface disturbance from dirt bike trails is evident, and some of the trails extend onto the Ford Farm Site.

The proposed Scarborough Road connector between McKee Road and Dupont Highway crosses a broad upland surface between two large creeks before crossing Fork Branch of the St. Jones River and its associated wetlands. The proposed highway corridor continues eastward to its terminus at U.S. Route 13 (Figure 1). A variety of environmental settings, both disturbed and undisturbed, are traversed by this section of proposed roadway. Stormwater Basin Nos. 1 and 2 lie on the mid-peninsular drainage divide in an area with predominantly poorly drained Fallsington soils interspersed among patches of well-drained Sassafras sandy loams. Stormwater Basin No. 3 lies on an upland surface adjacent to the St. Jones River on the east side. The Stormwater Basin No. 1 property is a small plot, measuring about 50 by 70 meters (164x230 feet), adjacent to McKee Road. Eleven shovel tests (STPs) were excavated by Berger in the Stormwater Basin No. 1 property. Stormwater Basin No. 2, measuring approximately 200 meters by 80 meters (650x263 feet), is located in an upland setting a short distance from an intermittent drainage feeding into the St. Jones River. Berger excavated 37 shovel tests in Stormwater Basin No. 2.

Stormwater Basin No. 3, which is slightly larger than Basin No. 2, lies adjacent to the area tested during a previous investigation by Heite and Blume (1995a). During that earlier investigation, the White Marsh Site (7K-C-390) was located, near the mouth of White Marsh Branch and adjacent to the Phase I survey area tested by Berger. During their initial Phase I survey for the proposed Scarborough Road connector project, Heite and Blume (1992:48) excavated two 3x3-foot units (ER1 and ER2) in the location of Berger's proposed Stormwater Basin No. 3 survey area, which produced only a few flakes. Berger's excavations in Stormwater Basin No. 3 consisted of 47 shovel tests; the only positive shovel test was located in the same area where the flakes had been found by Heite and Blume (1992).

Wetland Replacement Area Nos. 1 and 2 are located near the north end of the survey corridor, close to U.S. Route 13. Portions of this area had previously been surveyed by Heite and Blume (1992). Eleven shovel tests were excavated by Berger in Wetland Replacement Area No. 1 and 67 shovel tests in Wetland Replacement Area No. 2.

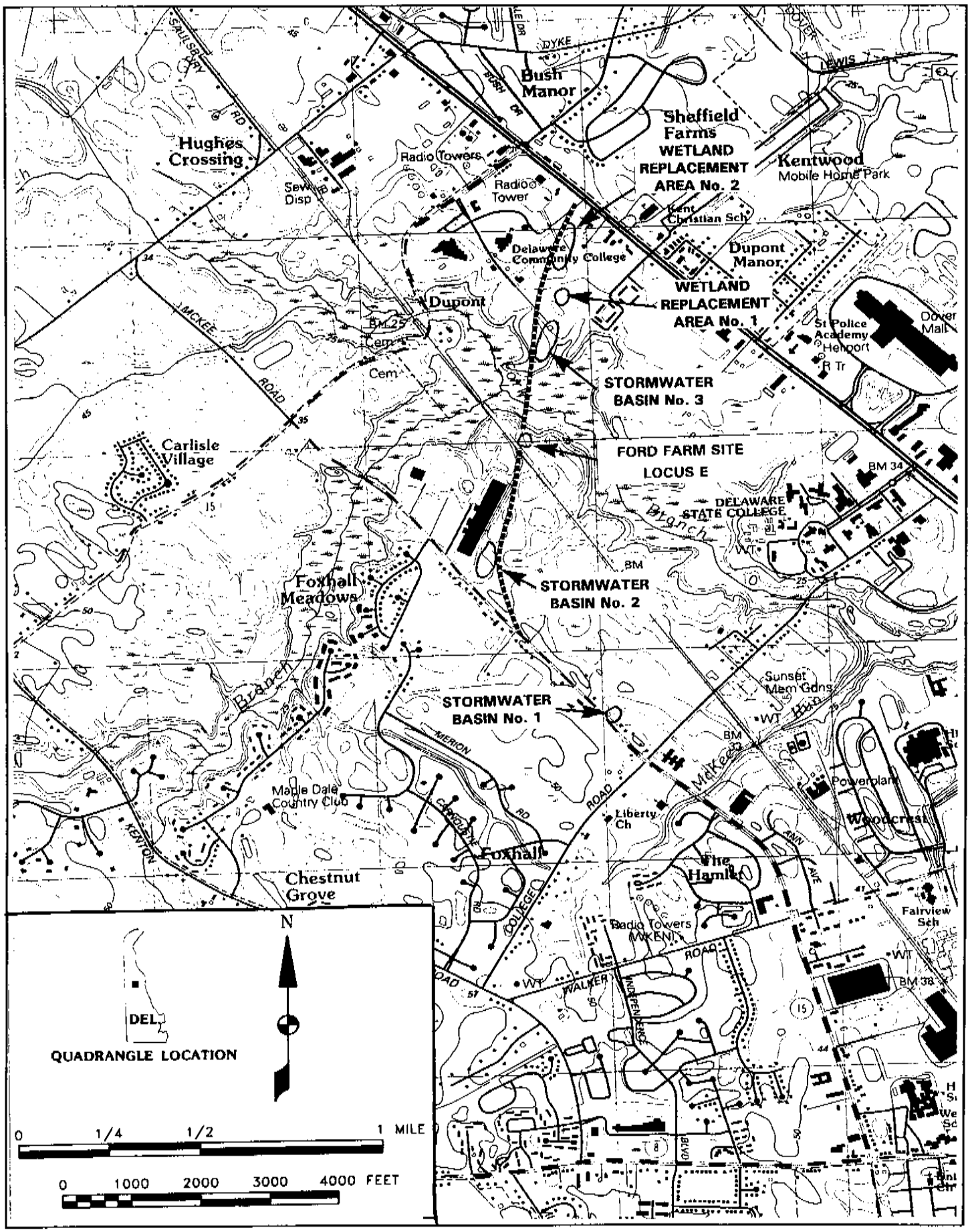

FIGURE 1: Location of the Ford Farm Site, Locus E, and Phase I Survey Areas

SOURCE: USGS 7.5 Minute Dover, DE Quadrangle 1993

B. Synopsis of Previous Work on Ford Farm and Nearby Localities

Among previous studies conducted in the vicinity of the project area was work undertaken by the University of Delaware Center for Archaeological Research (UDCAR), which included the discovery of the Blueberry Hill Site (7K-C-107) (Custer and Galasso 1983), and the survey of the southern alignment for the Scarborough Road corridor by Heite and Blume (1992). Additional work was undertaken at the Blueberry Hill Site, including Phase II investigations (Heite and Blume 1992:70) and ultimately a Phase III program of data recovery (Heite and Blume 1995b). The Blueberry Hill Site provided an excellent comparative stratigraphic study for the work done at the Ford Farm Site, Locus E. The two sites occupy a similar bluff-edge position, Blueberry Hill being just a short distance upstream from Ford Farm.

The results of the initial survey of the southern alignment of the project corridor by Heite and Blume (1992) that are pertinent to this project include the recording of five archaeological loci (designated A, B, C, D, and E) at the Ford Farm Site on the west side of the St. Jones River and identification of the White Marsh Site on the east side of the river. Locus D, the original locus identified at the Ford Farm Site, is about 80 meters (263 feet) east of Locus E, the focus of this investigation. A redefinition and refinement of the southern alignment from McKee Road to U.S. Route 13 necessitated additional Phase I survey efforts (Heite and Blume 1995a), and during the course of the additional work further tests were conducted at the Ford Farm Site, Locus E. Loci A, B, and C, all plow-disturbed loci associated with bay/basin features, were not considered eligible for the National Register and were not further tested (Heite and Blume 1995a:92). The same recommendation, that it was plow-disturbed and not eligible, was made regarding the open field locus of the White Marsh Site, which lies adjacent to Berger's Stormwater Basin No. 3 survey area.

Throughout the remainder of this report, unless otherwise indicated, references to the Ford Farm Site should be understood as referring only to Locus E (7K-C-386E) of the site.

Phase I testing at the Ford Farm Site by Heite and Blume (1995a) included the excavation of six 1x1-meter (3.3x3.3-foot) test units to determine the nature and integrity of buried deposits on the site (Figure 2). Three of the units, Units 190, 191, and 192, were placed along a northwest-trending transect 20 meters (66 feet) apart. Units 190 and 191 were excavated to a depth of 40 centimeters (16 inches) below surface and Unit 192 was also shallowly excavated, to the depth of an argillic horizon at 45 centimeters (18 inches) below surface. In these three units it was concluded, based on consultation with John Foss, the soil scientist for the project, that evidence of human occupation was limited to the upper part of the profile. Although artifacts were confined principally to the plow layer in these units, it was noted that in Unit 190, a cambic B-horizon (Bw) was defined below the plow layer to a depth of 60 centimeters (24 inches) below surface. This level was underlain by a B/C-horizon with lamellae and a basal stratum of medium-grain sand. The Phase I unit summaries are tabulated in Table 1.

Table 1. Phase I Artifact Recoveries from the Ford Farm Site
(after Heite and Blume 1995a:107-108)

Unit and Provenience	Artifacts Recovered
190 (plowzone)	1 quartz chunk 2 FCR
191 (plowzone)	1 quartz flake 1 chert flake 1 FCR
192 (0-30 cm)	1 Dames Quarter sherd 1 chert flake 1 pebble core 4 FCR
192 (30-35 cm)	2 nails 1 whiteware sherd 1 quartz flake 1 FCR
193 (0-85 cm)	2 jasper flakes 4 FCR 1 chert core 1 quartz core 1 quartzite flake 1 jasper scraper
194 (0-20 cm)	3 heat-reddened pebbles
195 (0-95 cm)	2 heat-reddened pebbles 1 quartz chunk 1 chert chunk 2 jasper flakes 1 chert flake 4 FCR 1 jasper small-stemmed point 1 piece of grinding stone

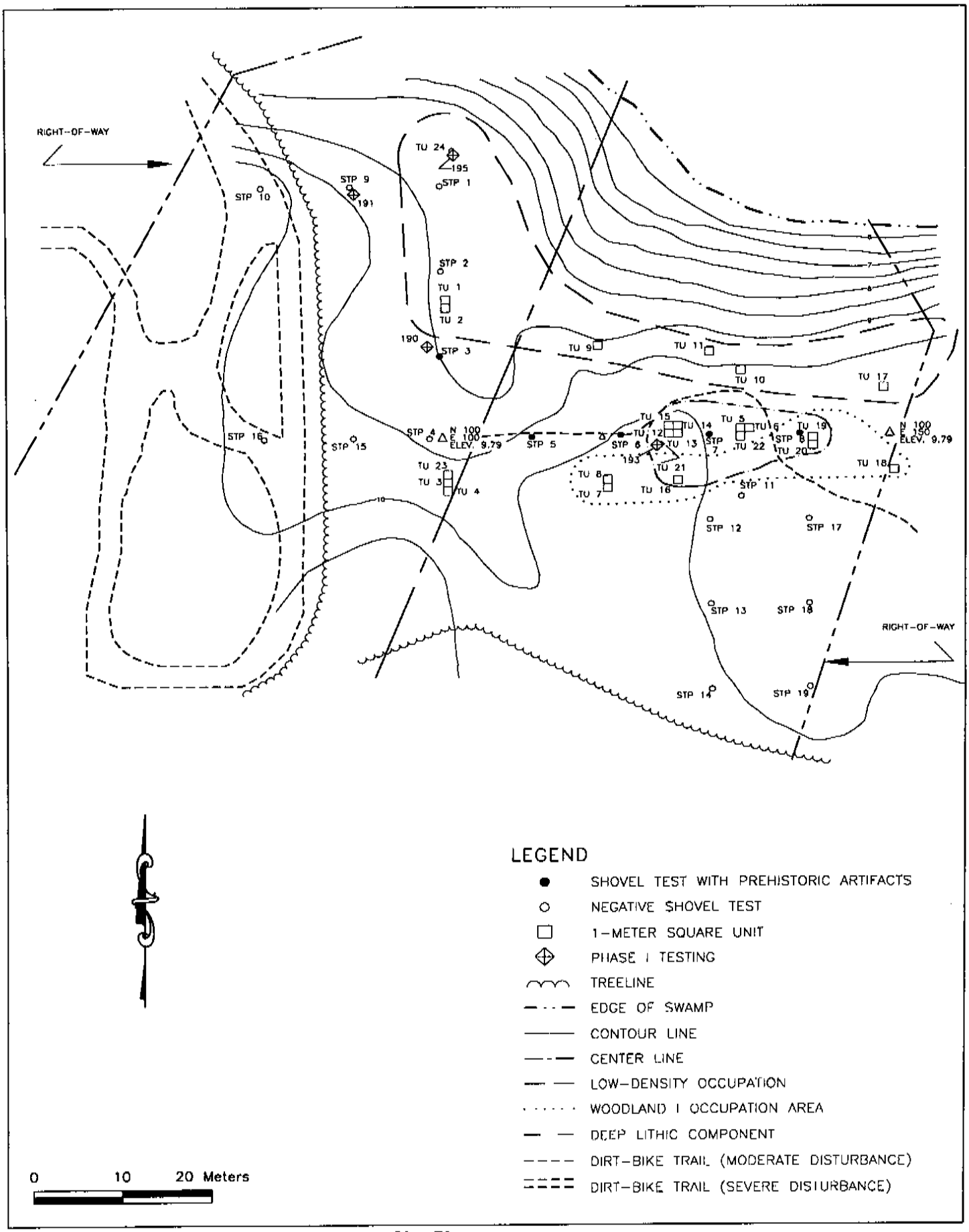

FIGURE 2: The Ford Farm Site, Locus E, Site Plan

III. ENVIRONMENTAL SETTING

A. PHYSIOGRAPHY, GEOLOGY, AND SOILS

The Ford Farm Site, which is about 3 kilometers (1.9 miles) northwest of Dover, is located within the Mid-drainage area of the Atlantic Coastal Plain physiographic province. This is a level and low-lying surface between the Delaware shore zone and the drainage divide that separates the waters flowing into the Chesapeake Bay and those flowing into the Atlantic Ocean. The Coastal Plain is composed principally of unconsolidated sands, clays, and gravels of marine and fluvial origin.

The site occupies an upland setting overlooking the upper St. Jones River (Fork Branch) at an elevation of approximately 12 meters (40 feet) above sea level. In spite of its upland position, the site, like the nearby Blueberry Hill Site, has been buried by aeolian sediments. Two bay/ basin features, small wetland depressions in the landscape that are common near the project area, are located southwest of the site (Heite and Blume 1995b:17). There are also wetland areas nearby, within the floodplain of Fork Branch. During prehistoric times, these floodplain swamps would have provided attractive habitats for large and small game as well as for waterfowl.

The local geology underlying the site is composed of the Pleistocene-age Columbia Formation (Jordan 1964), medium to coarse sands and gravels of probable fluvial origin. In the vicinity of the Ford Farm Site, these sediments are estimated to be approximately 6 meters (20 feet) thick (Jordan 1974). One explanation for the origin of the Coastal Plain uplands such as those surrounding the Ford Farm Site has been proposed by Knox (1983). According to Knox (1983), the Coastal Plain uplands may be the result of rapid downcutting by area streams during periods of extensive runoff. This would have occurred throughout the late Pleistocene and into the early Holocene. Patterns of precipitation during the early Holocene eventually resulted in the accumulation of stable floodplain deposits in many of the stream valleys in eastern North America. By 6,000 years ago, however, the climatic pattern shifted to one dominated by more intense storm activity and river channel cutting. Downcutting in Coastal Plain stream valleys at this time would have resulted in the isolation of the older floodplain deposits in settings of higher elevation. This pattern was again followed by a trend toward the accumulation of floodplain sediments.

Another means of sediment accumulation on Delaware's Coastal Plain was the intense aeolian or wind-blown deposition of fine sediments, which appeared to be most prevalent during the period between 6,000 and 2,000 years ago, during the Xerothermic maximum (Carbone 1976; Curry 1980). Foss et al. (1978) describe differences in loess thickness based on distance from Chesapeake Bay. Localities sampled from areas closest to the bay typically showed thicker post-Pleistocene loess cover. Similar patterns may be expected for the regions closest to Delaware Bay.

Curry and Ebright (1990:7) have noted that sites on the western shore of Maryland buried by aeolian sediments may be differentially buried, that is, unevenly blanketed with fine-textured sediments. Some components are thus buried more deeply, while others are either shallowly buried or mixed

with earlier and later occupations. Archaeological sites buried by these processes, as has already been mentioned, include sites all around the Chesapeake Bay region as well as in northern Delaware. The same factors were responsible for the burial of sites under fine sediments in the middle and lower Delaware Valley, such as at the Abbott Farm National Landmark sites, near Trenton, New Jersey. Extensive investigations at Abbott Farm (Stewart 1987) and at sites in Delaware (Ward and Bachman 1987) have provided substantial documentation on the burial of Coastal Plain sites by wind-blown sediments.

Custer (1999), for example, notes that periodic droughts during the Holocene may have been responsible for the varying amounts of aeolian deposition throughout Delaware. Markewich and Markewich (1994) also note the prevalence of drought conditions in eastern North America as a factor in aeolian erosion and redeposition, particularly with regard to dune formation. Although the Markewiches' study was focused on Georgia and the Carolinas, its findings have implications for dune formation in southern Delaware during the period from 15,000 to 3,000 years ago.

According to Custer (1999), aeolian events more recent than 3000 years before the present (BP) have resulted in the burial of sites, such as the Gum Branch Site (7S-E-83C), in Sussex County, Delaware. Earlier horizons, dating to 3,000 to 10,000 BP, however, are missing from the profiles of these sites, providing evidence of the uneven nature of aeolian erosion/deposition cycles; this unevenness can be measured from site to site as well as within the space of as little as 30 meters within a site (Custer 1999:183). The same pattern has been replicated at a number of sites in southern Delaware, as noted by Blume (1995), and similar conclusions can be drawn in each case.

The upland areas in the vicinity of the Ford Farm Site are mapped as the Sassafras-Falsington Association. These are deep, well-drained soils formed in sandy sediments. Soils below the bluff edge, that is, along the St. Jones/Fork Branch floodplain, are classified primarily as swamp, with some soils of the Johnston Series present as well. Johnston Series soils are recently formed and poorly drained soils (Matthews and Ireland 1971).

B. Regional Lithic Resources

Cobbles of chert, jasper, quartz, and quartzite, as well as other siliceous materials, are found in secondary deposits in the region and were most likely utilized extensively by the occupants of the Ford Farm Site. Many of these lithic resources, particularly quartz, quartzite, and jasper, originate in the metamorphic formations of the Piedmont physiographic province. Rhyolite, which is represented to a minimal degree in the site assemblage, originated in the Blue Ridge mountains. The use of rhyolite is very evident in assemblages from the Late Archaic period in the Coastal Plain and Piedmont physiographic provinces, when perhaps the first marked expressions of trade are found in the region.

Debitage composed of these raw materials dominates most sites in the eastern Piedmont and the Coastal Plain. Many of the raw materials represented originated in secondary deposits of cobbles, as is evidenced by the predominance of cobble cortex on artifacts from a large number of the

region's sites. Custer and Galasso (1980) provide a comprehensive inventory and description of many of these Coastal Plain lithic raw materials.

Primary sources of siliceous raw materials in Delaware are also found within what is called the Delaware Chalcedony Complex (Wilkins 1976), a deposit found in the northern part of the state containing cherts, jaspers, and chalcedonies of variable knapping quality. Most of these materials are probably jaspers of unspecified knapping quality (Custer 1989:56) such as the material called Iron Hill jasper, found in an aboriginal quarry context at Site 7NC-D-34, in northwestern New Castle County.

Argillite, found in Lockatong Formation deposits in the Piedmont region of northern Mercer County, New Jersey (Didier 1975; Widmer 1965:21-22), is also common on sites in the region (Custer 1989), although very little of this material was recovered from the Ford Farm Site. Argillite was widely used for the manufacture of stone tools at the Abbott Farm archaeological site complex near Trenton, New Jersey, since as early as the Late Archaic period. Its popularity as a raw material declined during the Late Woodland period, when it was replaced by jasper, chert, and other siliceous raw materials (Wall et al. 1996). Secondary or cobble sources of argillite were also utilized extensively.

C. Paleoenvironment

An overview of Middle Atlantic region paleoenvironments provided in the work of Carbone (1976) gives the background data essential for modeling man-land relationships throughout the Holocene. The description given below briefly outlines major events and shifts in the composition of environmental settings that may have influenced prehistoric settlement patterns and lifeways in the Atlantic Coastal Plain. Relevant pollen data from the Middle Atlantic region come principally from Buckle's Bog near Meadow Mountain in western Maryland (Maxwell and Davis 1972), and from Cranesville Swamp, near the West Virginia-Maryland boundary (Cox 1968). Other pollen data are available from sources closer to Delaware, but incomplete profiles and lack of radiocarbon-dated contexts make these data less useful. One of the more complete pollen sequences relevant to northern Delaware is from Dismal Swamp in northern Virginia (Whitehead 1972).

The climate circa 12,000 years ago, when the first aboriginal peoples entered the region, was relatively cool and wet compared to the present. Late Glacial period environments included forests dominated by spruce and pine as well as a mixture of other arboreal species not found in any present-day settings. Pollen sequences derived from coring bay/basin features in central Delaware show a predominance of spruce, pine, and birch at circa 11,000 BP (Webb et al. 1994). The cool, wet climate would have provided suitable conditions for the development of bogs, ponds, and other types of wetlands throughout the Coastal Plain. Relict bog sites in many areas of the Middle Atlantic have produced evidence, such as fluted and Early Archaic projectile points, of early Holocene occupations. Environments of these types were prevalent throughout the Coastal Plain.

The St. Jones River system and nearby drainages were subjected to marked changes over the last 10,000 years, as were most fluvial systems along the Atlantic coast. In late Pleistocene times, when

the Atlantic Coastal Plain was far more extensive than it is today, the St. Jones River was downcutting through pre-Holocene sediments characterized by a patchwork of wetland and well-drained surface features. With the withdrawal of the glaciers from areas further north, and with it a significant rise in sea level, the Delaware River and other smaller coastal streams slowly expanded into viable estuarine systems. These estuarine systems had more or less stabilized by 6000 BP, and by 3000 BP tidal water boundaries had reached their present-day limits (Kraft 1977). These systems provided the basis for incipient Woodland I subsistence practices as the Delaware Coastal Plain and interior environments assumed a modern character.

In late Pleistocene and early Holocene times, the fauna inhabiting the area would have included megafauna such as mastodon, mammoth, sloth, moose, caribou, bison, and musk-ox (Carbone 1974:94). Remains of such species have been found in submerged contexts along the Atlantic continental shelf (Edwards and Merrill 1977). Similar faunal assemblages have also been recovered from montane regions of the Middle Atlantic, particularly from cave and salt lick sites such as New Paris No. 4 Sinkhole (Guilday et al. 1964), Natural Chimneys (Guilday 1962), Clark's Cave (Guilday et al. 1977), and Cumberland Bone Cave (Franz and Slifer 1971; Gidley 1918).

By Middle Holocene times, climatic warming trends had brought about an increase of deciduous elements in the forests, resulting in the development of forests of mixed deciduous-coniferous composition. Pollen data from Cranberry Glades, West Virginia, show a pine-birch forest around 9500 BP, followed by a forest dominated by oak, hemlock, and birch (Carbone 1976; Darlington 1943). In some of the broader valleys there is evidence of an oak forest, with conifers not as well represented (Gardner 1987). In Delaware, after 6000 BP pollen data show a significant rise in oak (*Quercus*) and buttonbush (*Cephalanthus*) (a wetland species), both predominant in modern vegetation assemblages. This finding is supported by more recent core sampling of localities within Delaware, such as Walter's Puddle, Longhauser Pond, and Nowakowski Pond (Webb et al. 1994).

The pollen studies also show a significant hiatus in sedimentation in each of the sampled basins from circa 12,000 to 6000 BP. This observation seems to indicate that desiccation and deflation of earlier sediment packages occurred (Webb et al. 1994:46). The relatively dry climate may also have affected distributions of human activity in the region. The implications of the data are that the dry period may have lasted anywhere from 100 to 5,000 years (Kellogg and Custer 1994:97), although it is likely that a portion of the sediments laid down after 12,000 BP were deflated by aeolian activity during the subsequent dry climatic episode.

After 11,000 BP bay/basin features may have been sought as viable sources of fresh water in a region that was broadly affected by the drying climatic trend. These bay/basin features may also have been attractive settings for a variety of game species, thereby increasing the importance of these settings as critical resource areas (see Kellogg and Custer 1994:98-99). The overall rarity of archaeological sites in Delaware dating prior to 6500 BP may be at least partially explained by the dry climate (Kellogg and Custer 1994:98). When found, Archaic sites in the region tend to be located near sources of fresh surface water.

Following 8500 BP, a warm and moist climate supported the growth of deciduous forests. Subsequently, during what is termed the mid-postglacial Xerothermic (5000-3000 BP), a drier climate supported xeric deciduous forests. During this period, hickory, chestnut, and oak would have been the predominant forest species, providing an increasing abundance of nut resources in the region upon which the regional small mammal population subsisted. It is during this time that upland resources of the Coastal Plain would have been heavily exploited by Woodland I groups. A more open character in some of the region's forests would also have been common during this Xerothermic interval, creating greater diversity in regional habitats and increasing the carrying capacity of the environment (Custer 1994).

Many of the faunal species characteristic of the area in late Pleistocene and early Holocene times were no longer present, as the faunal assemblage by this time had assumed a more or less modern character. However, the area would have remained a productive environment for hunting and trapping of both large and small game. After 6500 BP settlement around bay/basin features was relatively common, but use of such settings diminished in Woodland II times. This may be explained by a much lessened need for sources of fresh water as a result of the moist climatic conditions (Custer 1994).

By about 3,500 years ago, an essentially modern climate and associated forest cover characterized the region. Some shifts between wet and dry episodes over the last 2,500 years have been observed in paleoenvironmental data collected in the St. Jones River valley (Custer 1994:12). However, these shifts over recent millennia may be interpreted as minor deviations in a modern pattern rather than major changes in the climatic regime such as those that occurred earlier (Carbone 1976). These minor shifts, as expressed over a much larger region, include a cool, dry period from about AD 250 to 650 and another period of climatic deterioration, termed the Little Ice Age (AD 1200 to 1250) (Baerreis et al. 1976). Although these climatic alterations were not catastrophic in their effect on peoples living in the Middle Atlantic Coastal Plain area, some settlement shifts may have occurred in response to changes in the distribution of associated plant and animal populations.

The most apparent settlement shifts in the St. Jones River valley and other Coastal Plain river systems would have been related to upstream shifts in the oligohaline zone (freshwater-brackish water boundary area) (Custer 1994:102). Since this was one of the more productive habitats utilized by prehistoric inhabitants of the region, the locations of procurement sites and their associated macro- and microband camps would have moved accordingly. That is, given the gradual sea level rise throughout the Holocene, Woodland I camps would be expected to have been located in areas further upstream than camps of earlier periods (Custer 1994).

The setting at the Ford Farm Site would have provided the requirements necessary to sustain a variety of temperate fauna, such as deer, bear, and elk, as well as smaller game animals. Fish and shellfish would have been readily available in the nearby St. Jones River. Faunal species lists from excavated sites in the region show that shellfish as well as deer and small mammals were an important component of prehistoric subsistence, especially in Woodland times.

The project area is contained within the Chestnut Oak-Post Oak-Blackjack Oak forest association (Braun 1950; Brush et al. 1976). The flora of this forest group includes red maple, black gum, white oak, sassafras, greenbrier, American holly, and Virginia pine. The vegetation in the project area can be characterized as oak-chestnut forest, with upland areas represented by mixed deciduous forests. Shelford (1963) includes the project area within the temperate deciduous forest biome (or oak-deer-maple biome). The region would have provided aboriginal populations with rich and varied biotic resources in the form of nuts, seeds, berries, fish, large and small mammals, and birds. The site is presently forested.

The modern climate in the region is humid continental, with local variations resulting from differences in elevation, slope, and valley position. Precipitation averages about 40 inches per year. The average annual temperature is 54 degrees Fahrenheit and the average number of days with temperatures below freezing is between 100 and 110 (Matthews and Ireland 1971).

IV. CULTURAL BACKGROUND

A. Previous Investigations in the Region

Numerous archaeological sites have been recorded in the vicinity of Dover, many during the course of Phase I surveys for the U.S. Route 13 corridor (e.g., Bachman et al. 1988). Most of these sites are associated with streams and wetlands along Muddy Branch, Dyke Branch, and Little River.

The prehistoric sites recorded along this corridor date to as early as circa 8000 BC, judging from the find of a rhyolite Kirk stemmed point on one of the Dover Downs Hill sites. Other notable prehistoric sites recorded within this corridor are the Carey Farm (7K-D-3) and Island Farm (7K-C-13) sites. Carey Farm is a large base camp associated with storage pits, hearths, and tool manufacturing areas. Island Farm is a smaller base camp. Both sites date to as early as circa 3000 BC. Phase II investigations were conducted by Berger at Sarro wetlands on Site 7K-C-396, one of several prehistoric sites along Muddy Branch (Bedell et al. 1995). More recently, extensive excavations have been conducted at the Puncheon Run (7K-C-51) (LeeDecker 1999) and Hickory Bluff (7K-C-411) sites, on a large tributary of the St. Jones River.

Closer to the project area, Phase I investigations were conducted by Heite and Blume (1992:46) on the Delaware Technical College property, as part of the survey for the proposed Scarborough Road connector. A combination of machine stripping and test unit and shovel test excavation were used to identify sites in this area. Although three sites were recorded (7K-C-392, 7K-C-388, and 7K-C-390), no undisturbed contexts were associated with them. Early nineteenth-century artifacts recovered from Site 7K-C-392 included a slip-decorated red earthenware bowl and a basal sherd from a free-blown green cylindrical beverage container (Heite and Blume 1992:46). On Site 7K-C-388, plowzone recoveries from three hand-dug 3-foot-square units included historic period artifacts, but no features were identified in any of the units. On a low sandy ridge near the mouth of White Marsh Branch, units and shovel tests produced evidence of two low-density lithic scatters, lacking subplowzone components. The site was designated the White Marsh Site (7K-C-390). Test trenching across the site provided little additional data. None of the three sites was considered to be significant.

On the west side of the St. Jones River, four additional archaeological sites/historic resources were identified: (1) the Scotten-Ford agricultural complex, (2) the Nathan Williams Site (7K-C-389), (3) the Mosley Historic District, and (4) loci within the Ford Farm Site. Locus E of the Ford Farm Site is the focus of the present investigation. Earlier surveys along the proposed Scarborough Road connector corridor had identified the Blueberry Hill Site and one locus at the Ford Farm Site (7K-C-386D). At the Scotten Ford Complex, because of the low probability of encountering archaeological remains, no subsurface tests were conducted (Heite and Blume 1995a:3), but on the Nathan Williams Site, a Phase II controlled surface collection and test trenching were undertaken. For the Mosley Historic District, subsurface tests confirmed the presence of foundations relating to a nineteenth-century farmhouse.

The Blueberry Hill Site (7K-C-107) is a deeply stratified bluff edge site located adjacent to the Ford Farm Site. The site was the focus of data recovery investigations in 1991-1992 (Heite and Blume 1995b). The site was found to be a deeply stratified procurement site with the earliest component dating to the Paleoindian period. Overlying Archaic and Woodland components were also delineated on the site. The occupations were separated by aeolian sands, which provided clearly defined cultural stratigraphy. Since the Blueberry Hill Site was so close to the Ford Farm Site (less than 100 meters, or 328 feet), similar components were expected to be found at the latter site during this Phase II study.

B. Prehistoric Background

The prehistory of Delaware comprises four major periods of cultural development: Paleoindian (10,000 to 6500 BC), Archaic (6500 to 3000 BC), Woodland I (3000 BC to AD 1000), and Woodland II (AD 1000 to 1600). A number of researchers (e.g., Custer 1984, 1994; Steponaitis 1980; Wright 1973) have developed chronologies for various portions of the Delmarva Peninsula/Chesapeake Bay region. Custer's (1984, 1989) settlement models have proved useful for designing Phase I surveys along linear transects typical of Department of Transportation surveys.

The Paleoindian period spans a time range from 10,000 to 6500 BC. It is the earliest recognized period of human occupation in the area. Paleoindian settlement patterns were characterized by a seminomadic existence within a defined territory, with a focus on hunting and the exploitation of high-quality lithic sources. Pleistocene megafauna, such as mammoth and mastodon, were extinct by this period, so the hunting emphasis was most likely on deer and elk, and perhaps caribou. Unfortunately, in the Delmarva Peninsula the archaeological record has not preserved such faunal remains in association with Paleoindian artifacts.

Custer (1984) classifies Paleoindian sites in Delaware within what is termed the Delaware Chalcedony Complex. By definition the Delaware Chalcedony Complex consists of extensive outcrops of moderate- to high-quality siliceous raw material likely to have been utilized by Paleoindian groups on a periodic basis. Directly associated evidence in the form of diagnostic Paleoindian artifacts is limited to a few serrated late Paleoindian notched point forms; however, further research is expected to recover more tangible evidence indicating the use of these outcrops throughout the Paleoindian period, particularly in northern Delaware where these outcrops are located (Custer 1989:103).

Paleoindian settlement patterns are marked by a focus on utilizing resources from inland swamps and other productive early Holocene habitats while at the same time maintaining ties to preferred outcrop areas where high-quality raw material could be obtained for manufacturing stone tools. Concentrations of fluted point finds have been noted in Delaware (Custer 1989:102) near sources of Delaware chalcedony (Custer and Galasso 1980). Jasper outcrops such as those associated with Iron Hill (Custer 1989:103) may also have been utilized by Paleoindian groups in the region, although direct evidence is also very limited. There are, however, a number of Paleoindian sites recorded in the Iron Hill area of New Castle County. Finally, a number of Paleoindian site locations

have been found along and adjacent to the mid-peninsular drainage divide in Delaware (Custer 1989:105) where a mosaic of poorly drained settings surrounds well-drained knoll features. This description pertains to the Blueberry Hill Site, where wetlands below the well-drained bluff where the site is located provided an attractive habitat for prehistoric settlements throughout the Holocene. Paleoenvironmental data from the mid-peninsular drainage divide documenting these early Holocene landscapes have been obtained from the Dill Farm Site (7K-E-12) (Custer and Griffith 1984). Paleoindian sites are also associated with bay/basin features, the small wetland depressions in the landscape that are common near the project area. These features would have been focal points for Paleoindian settlements as early as 12,000 years ago.

The Archaic period (6500 to 3000 BC), as traditionally defined, is characterized by increasing sedentism and more efficient adaptation to local resources (Caldwell 1958). The continuity from Paleoindian through Early Archaic noted by Gardner (1977) obscures the distinction between Paleoindian and Early Archaic. Continuity in subsistence and settlement systems through the Early Archaic Palmer and Kirk phases, as observed by Gardner (1977), provides support for the classification of all sites within this continuum as Paleoindian. Custer (1984, 1989), in agreement with this point, notes this by including the Early Archaic within Paleoindian.

Most of the Early Archaic (late Paleoindian) sites are known solely from surface finds, many of which are simply isolated projectile point recoveries. Stratigraphic data supporting the defined sequences for projectile point styles are derived mainly from sites in the Ohio Valley (Broyles 1971), Meadowcroft (Adovasio et al. 1975), and the Shenandoah Valley (Gardner 1974). Diagnostic projectile point types representing Early Archaic occupations in the region include, primarily, Palmer corner-notched, Kirk notched and stemmed, MacCorkle, and a variety of lesser-known types. Sites containing these styles of projectile points have a similar distribution to fluted point sites in Delaware, such as along the mid-peninsular drainage divide (Custer 1989:108). The recent excavations at the Blueberry Hill Site (7K-C-107) along the St. Jones River in Dover have produced deeply buried early Holocene components defined by Palmer and bifurcate points (Heite and Blume 1995b).

Many of the Early Archaic (late Paleoindian) sites with intact components are very likely in submerged contexts in the Delaware and Chesapeake drainage estuaries. Many of these sites were inundated during the early Holocene as sea levels rose with the melting of continental glaciers in northern regions of the continent. Submerged terrace surfaces have produced numerous finds, including Paleoindian projectile points during times of low tide (Gardner and Wall 1978), indicating that a substantial number of sites lie in drowned estuaries along the Atlantic seaboard. Recent surveys along the eastern shore region of Chesapeake Bay (Paw Paw Cove and Meekins Neck), Maryland, have produced a number of fluted points (Lowery 1989; Lowery and Phillips 1994). It is suggested that these may have been estuarine-associated base camps (Lowery 1989).

Subsequent Middle Archaic period occupations (6000 to 3000 BC) are marked by the diagnostic bifurcate projectile point style. Again, most of the sites of this period are known through finds of projectile points on Holocene terraces (e.g., the Blueberry Hill Site) and upland surfaces, as well as

along estuaries, on swamp margins, and near springheads. Most of the sites consist of surface finds and are often located in drowned valleys, estuarine settings, and upland or interior headwater areas. A variety of lithic raw materials are represented on these sites, including argillite, quartz, quartzite, rhyolite, jasper, and several varieties of chert and chalcedony. Middle Archaic occupations represent some significant changes in early Holocene adaptations in the region which involve exploitation of a wider range of environments and such additions to the toolkit as drills and, later, groundstone items.

Buried early Holocene components are more commonly found in upstream areas in the nearby Delaware and Susquehanna drainages. Sites such as Blueberry Hill (Heite and Blume 1995b), however, seem to be an exception, and burial of components at these sites can be explained by localized accretion of aeolian deposits on exposed bluff edges.

The first two millennia of the Woodland I period (circa 3000 to 1000 BC) in the Delmarva region is marked by sites yielding assemblages typically containing scrapers, drills (often fashioned from resharpened points), adzes, celts, netsinkers, anvilstones, and steatite bowls. The appearance of groundstone tools, used for the processing of gathered wild plant foods, illustrates a reliance on new technology related to shifts in subsistence practices. One of the more common diagnostic artifacts representing this period is the Orient fishtail point.

Although stratified sequences from single profiles in the Delmarva region are limited, radiocarbon dates have been obtained from individual site occupations. These dates cover most of the span of Delaware prehistory. For example, dates on materials other than shell have been derived from sites such as the Hawthorn Site (7NC-E-46), where a pit feature associated with stemmed and notched points was dated to 2250 BC (UGa-5378) (Custer and Bachman 1984); the Delaware Park Site (7NC-E-41), where a semisubterranean pit house associated with a grooved axe and biface cache was radiocarbon-dated to 1850 BC (UGa-3440) (Thomas 1981); and the Clyde Farm Site (7NC-E-6a), where a platform hearth associated with a stemmed point and Dames Quarter ceramics was dated to 1005 BC (UGa-5376) (Custer et al. 1986) (see Custer 1989:appendix 2).

Radiocarbon-dated contexts from areas in the Lower Susquehanna region and the nearby Potomac River Valley provide a comparative chronological framework for dating initial Woodland I occupations on the Coastal Plain. Some of these sites, such as Marcey Creek, Selden Island, Popes Creek, and Bare Island, and the chronologies developed from them, were the basis for developing the initial chronology for the Delmarva region (e.g. Weslager 1944; Wright 1973). An initial sequence was developed by Stephenson and Ferguson (1963) which includes, for example, Piscataway, Vernon, Rossville, and Calvert projectile point forms to represent the various cultural phases within this time frame. Otter Creek points have been found in both Middle and Late Archaic components (Funk 1965; Steponaitis 1980). Earlier dated contexts associated with Poplar Island points from the nearby lower Susquehanna River Valley include the Duncan Island Site in Lancaster County (Witthoft 1959), a stratified Archaic site which contained evidence of hearths in B-horizon contexts. This site also showed fairly intensive use of quartzite and argillite, which Kinsey (1959) notes is characteristic of Poplar Island culture.

At Bare Island, in the lower Susquehanna River Valley, Kinsey excavated a buried component containing large stemmed and notched points along with bannerstones, gorgets, groundstone axes, celts, and grinding stones. The grinding stones indicate more intensive exploitation of local plant foods, indicative perhaps of a more sedentary existence, a trend which is evident for the Late Archaic period as a whole. Lithic materials most commonly utilized in the Bare Island occupation include rhyolite, siltstone, argillite, and quartz. Recoveries of steatite vessel fragments also indicate tendencies toward a more sedentary economy. The steatite was most likely quarried from sources downstream at Christiana and Georgetown, and sources further to the southeast toward the Delaware drainage. Vinette I pottery (exterior cordmarked, usually tending toward vertical; and interior-horizontal) was also recovered from excavations at Bare Island.

Evidence obtained from surface collections in the Delmarva region shows greater use of local lithic resources during Woodland I than by earlier Middle Archaic peoples. There is, for example, a heavy reliance on quartz and quartzite, as well as rhyolite, a nonlocal material obtained from the Blue Ridge. Settlement patterning in the lower Delaware Valley during early Woodland I times appears to have been focused more on riverine resources. Surface site data from the area also show an increase in site size at this time. This would perhaps suggest a gradual shift toward subsistence strategies focused on locally abundant resources, particularly shellfish and fish spawns (as evidenced by the presence of netsinkers on many of the large sites). At the same time, new types of environments being exploited included a much wider use of ephemeral (interior headwater) locations along the mid-peninsular drainage divide. The emergence of a sedentary way of life developed as a result, supported by subsistence economies that may be considered focal, in Cleland's (1976) sense, although a much broader range of resources were being exploited at this time. In this part of the Coastal Plain, there were most likely seasonal occupations which depended on the productivity of riverine and estuarine resources and the seasonal availability of mast in the upland/interior locations.

The Woodland I period is also marked by the introduction of ceramics and the emergence and development of burial ceremonialism. Burial ceremonialism was more widespread in certain areas of eastern North America, such as in the Ohio Valley and the southern Great Lakes region; in other areas, such as the Delmarva Peninsula, the evidence is limited chiefly to surface finds of trade items (e.g., Adena blocked-end tubular pipes) along major streams. A cremation site (West River Site) from which Adena artifacts were recovered is one of the few buried features dating to this time period in the region (Ford 1976). Comparable sites have been excavated in Delaware, as described by Thomas (1970) and classified by Custer (1994), within the Delmarva Adena complex. These include the nearby St. Jones (7K-D-1) and Frederica (7K-F-2) sites. At the St. Jones Adena site, one of the burial features contained several primary individuals, cremations, and associated Adena artifacts such as stemmed bifaces made from Ohio Valley cherts (Thomas 1976). Most of the Delmarva Adena sites are lacking such contextual data.

There is at present little evidence of cultigens in the region at such an early date. It is assumed that Woodland I populations subsisted mainly by hunting, gathering, and fishing, in a manner not unlike their Late Archaic period predecessors. Sites associated with low-order drainages are most likely to be representations of hunting camps. The more stable Woodland I period base camps contained

storage pit features. These types of features are represented at sites such as Clyde Farm (Custer et al. 1985), Pollack (7K-C-203) (Custer, Hoseth, Silber, Grettler, and Mellin 1994) , and Leipsic (7K-C-194A) (Custer, Riley, and Mellin 1994). The majority of these storage features, both within and outside of inferred pit house structures, contain low frequencies of artifacts. Those features with higher numbers of artifacts may have been used for refuse disposal after the stored foods were consumed (Custer, Hoseth, Silber, Grettler, and Mellin 1994).

Vinette I pottery, a crushed quartz (or chert/grit) interior-exterior cordmarked type, is one of the earliest diagnostic ceramic types for the Early Woodland (Woodland I); its regional variants in Delaware are composed of high percentages of crushed rock. However, Marcey Creek, a steatite-tempered ware, followed by Accokeek pottery, a crushed-quartz-tempered ware, are the primary time markers for Early Woodland in the Delmarva region. Early Woodland sites are generally larger than sites of previous times, and during this period there seems to have been an increasing reliance on estuarine resources such as shellfish. This is evidenced by the identification of large shell midden sites (Wright 1973) dating to this period in the region.

Intensification in trade networks over a large region characterizes the end of the Woodland I period (500 BC to AD 1000). There was an expansion of horticultural practices as well at this time, although hunting, fishing, and plant collecting continued to be important subsistence pursuits. The subsistence economy of this time is also marked by the initiation of maize horticulture (Gardner 1982), but this activity may have been limited in many areas of the Coastal Plain, especially in resource-rich estuarine areas, where intensive hunting, fishing, and collecting were favored.

A change in pottery styles to net-impressed wares (e.g., Popes Creek) and Mockley wares (late Middle Woodland) is a characteristic of the late Woodland I period. The large number of sites for this time period and the extensive size of some of the sites support the argument that seasonal aggregation and dispersal may have occurred (Steponaitis 1980; Custer 1989). Toolkits utilized by late Woodland I peoples were basically the same as those used during the subsequent Woodland II period. However, a greater quantity of more exotic lithic materials is represented in late Woodland I assemblages. Technology in the region during this time seems to have been geared toward bifacial tool production rather than a prepared core and blade flake technology such as would be expected in the Ohio Valley.

The Clyde Farm and Barker's Landing complexes are defined by Custer (1989:192, 1994:22) as marking the principal divisions in Early Woodland I, at circa 3000 and circa 500 BC. The Clyde Farm Site (7NC-E-6) is the type site for the complex bearing its name. The site is a large macroband camp containing Marcey Creek and Dames Quarter ceramics, platform hearths, possible storage pits, and a pit house (see Custer et al. 1986), all signs of a sedentary existence. The Barker's Landing Complex (7K-D-13) is similar to Clyde Farm, but distinctions between the two sites can be made based on the presence at Barker's Landing of a large proportion of artifacts manufactured from nonlocal raw materials such as argillite (most common), steatite, and rhyolite. The type site and similar macroband camps are located on the mid-peninsular drainage divide, where, at the time of

the site's occupation, this freshwater-saltwater interface zone is believed to have been an environment extremely rich in resources (Custer 1989:224).

Subsequent Woodland I complexes described by Custer (1989, 1994) include Wolfe Neck, Carey, Webb, and the previously mentioned Delmarva Adena Complex, each with its distinctive cultural attributes and regional patterns of distribution. A tripartite (macroband/microband/procurement site) system of site classifications within each complex is exemplified by sites such as the Delaware Park Site (7NC-E-41), a Clyde Farm Complex macroband camp; the Bank Site (7NC-E-67) (Custer et al. 1986), a microband base camp represented by scattered hearths, lithic manufacturing debris, staged bifaces, stemmed points, broadspears, early ceramics, and steatite (Custer 1989:200); and procurement sites, which are small scatters in upland or interior settings characterized by scatters of a few flakes, isolated tools, and in some instances, cobble deposits utilized as raw material sources (Custer 1989:200).

The Woodland II period in the Delmarva Peninsula may be divided into two complexes: the Slaughter Creek Complex and the Minguannan Complex. In the southern Delmarva Peninsula, diagnostic artifacts for the Slaughter Creek Complex include Townsend ceramics and triangular projectile points. Large Slaughter Creek Complex macroband camps, some of which may have developed into large village communities, typically contain storage pits and other indications of long-term occupations and sedentary lifeways. Most of the larger Slaughter Creek sites are distributed in the Delaware Shore, Mid-drainage, and Coastal/Bay physiographic zones of southern Delaware (Custer 1984, 1986). The Ford Farm Site and Kent County are geographically central within the Delmarva Peninsula, so influences from northern and southern sources can be expected. Though there is little evidence of this in Delaware, in many surrounding regions of the Middle Atlantic region by around AD 1300 maize agriculture was well established and many settlements were fortified.

The Minguannan Complex is the comparable cultural complex defined for the northern part of the Delmarva Peninsula (Custer 1989:311). Typical Minguannan ceramics may be described as well-made, grit-tempered, and very similar to Potomac Creek ceramics. Diagnostic lithics include triangular points. While sedentism developed to a greater degree during this time in northern Delaware, as evidenced by storage pits, house patterns, and other indications of long-term occupations, there does not seem to have been a clear shift to horticultural production in the context of large village settlements. Instead, there is a great deal of continuity between Woodland I settlements established in favorable estuarine and other wetland settings and subsequent Woodland II occupations. Examples of such continuity include the Hell Island, Delaware Park, and Clyde Farm sites (Custer 1982; Thomas 1966, 1982; Wright 1962). The continuity is expressed in the persistence of a hunting/gathering/fishing subsistence pattern focusing on seasonally productive interior and estuarine resources. This pattern is not unlike those revealed at the Abbott Farm sites of the Late Woodland period, and its continuation is also supported by ethnographic information on the Lenape, one of the groups inhabiting the region around the time of European contact (Stewart et al. 1986; Weslager 1972).

Other trends in the Woodland II period in the region include shifts in lithic raw material preferences. These shifts may relate to the development of more sedentary lifeways, the increasing reliance on horticultural products (e.g., corn, beans, and squash), and a concomitant de-emphasis on intensive hunting and gathering. The result would have been a diminution of site catchment areas, which would in turn have resulted in more limited exploration for lithic raw materials and greater dependence on near-camp resources as well as those easily obtained through trade.

The protohistoric period in Delaware, that is, the period of first contact between Delaware aboriginal groups and European settlers, is represented by upheaval in native societies. Generally, in the eastern woodlands disruption occurred as a result of disease, forced migration, the introduction of European manufactured goods into native material culture assemblages, and the inevitable economic chaos resulting from rapid changes in subsistence practices. There are very few sites dating to this time period in the state. Archival source information describes minimal interaction between local native residents and the European newcomers, although broader regional patterns show that such interaction did occur. There is substantial information, however, regarding the role the Susquehannocks played in dominating the fur trade in this region at the head of Chesapeake Bay. A small number of descendants of the original Native American inhabitants of Delaware still reside in the state today.

C. Historical Background

1. General Overview

Situated in upper Kent County and now at the northern extremity of the Dover corporate limits, the project area falls within the Upper Peninsula Zone as delineated in the Delaware State Historic Preservation Plan (Ames et al. 1989). European settlement of the Kent County area commenced in about 1671. Exploration of this area appears to have been taking place since early in the seventeenth century, but the relatively small number of Swedish, Dutch, and English settlers who had landed in the present-day state of Delaware prior to 1671 had concentrated at the northern and southern ends of the present state, along the coast. The region was under Swedish rule from 1638 to 1655, was under the Dutch from 1655 to 1664, was under the English from 1664 to 1673 and under the Dutch again in 1673-1674, and finally came under more lasting English sovereignty in 1674 (Hancock 1976:4).

Based on the record of land grants from the 1670s, early European/American settlers in the Kent County area clustered to some degree along the St. Jones and Mispillion creeks during the first decade of European occupation, but thinly scattered homesteads were established along the lower reaches of most of the creeks in the area (Hancock 1976:5). The early settlers were predominantly English, but there were some Dutch colonists and a few of French Protestant (or Huguenot) heritage. Many settlers moved to the Kent County area from Maryland (Hancock 1976:4-6) and also from Virginia (Heite and Blume 1995a:10).

Kent County was founded in 1680 under the name St. Jones County, and was given its permanent designation by William Penn in 1682. The area had been governed as the upper reaches of the

district of Whorekill (an earlier name for Lewes) since 1673. The town of Dover was founded as the permanent county seat of Kent County in 1717. Dover grew slowly in its early decades; its population was said to consist of only 20 families in 1750 (Hancock 1976:9). The slow growth was representative of a pronounced lack of urbanization that characterized Kent County overall during the colonial period, and to a degree thereafter, which was perhaps a result of the powerful commercial presence of Philadelphia to the north and Baltimore to the west (Heite and Blume 1995a: 10). Dover, which became Delaware's capital in 1777, has always been the preeminent town in the county (Hancock 1976:71).

The economic life of Kent County has historically been dominated by agriculture, from the early period of European settlement almost to the present. In the late seventeenth and eighteenth centuries, following an initial phase of subsistence production while their homestead was started and the first fields were cleared, farmers tended to take up the mixed agricultural system that characterized much of the Middle Atlantic region. This system emphasized the production of wheat, Indian corn, and livestock for market, with other grains, flax, and orchard and garden crops raised for subsistence. Kent County settlers found the soil very fertile in general. Tobacco was cultivated to some extent during the first century or so, chiefly by transplanted Marylanders (Herman et al. 1989:20, 24).

Gristmills, sawmills, and tanyards employing water flow were established by millers and tanners at appropriate locations for the operation of service or custom businesses processing grain, timber, and hides. These businesses were joined in the late eighteenth century by merchant flour mills, more specialized gristmills run by miller entrepreneurs who bought farmers' wheat crops outright instead of taking a portion as toll. Manufacturing remained largely absent from the economic landscape in Kent County until the mid-twentieth century (Hancock 1976:18, 22, 36).

The soil-depletive agricultural methods typical of the region's early farmers gradually cost Kent County much of the fertility of its originally highly productive soil. By the 1820s this tendency was threatening a local economic and demographic crisis. From 1820 to 1840 the county saw its population decline, from 20,793 to 19,872, as many young people left (Hancock 1976:19).

A resurgence of Kent County agriculture began in the 1840s, however, as local farmers responded to the general decline in productivity by paying more attention to the tenets of the burgeoning progressive agricultural movement. Encouraged by the Agricultural Society of Kent County, farmers began to use lime and guano as fertilizers, and to institute improved methods of crop rotation (Hancock 1976:20).

The agrarian recovery fostered by improved methods of husbandry was aided considerably by the improvements in transportation that characterized the region during the middle of the nineteenth century, particularly the introduction of steam navigation and the completion of the Delaware Railroad in 1856. This surge in transportation capacity and speed lowered the price of fertilizer and greatly facilitated the marketing of agricultural commodities. According to Manlove Hayes, steamboats and railroads deserved credit, as did lime, guano, and the county agricultural society, for the rebuilding of agricultural prosperity (Hancock 1976:20).

After 1840, the economic resurgence enabled Kent County to return to its pattern of moderately paced population growth, reaching a population of 27,804 in 1860 and 32,874 in 1880. The changes in modes of agricultural organization and activity that had occurred since 1820 were reflected in changes in the economic composition of the population. Slavery declined in the county, with the number of slaves decreasing from 1,485 in 1800 to 203 in 1860. A local tendency toward manumission was probably one element in this trend, as during the same period the number of free African-Americans in Kent County grew from 5,731 to 7,271 (Hancock 1976:19). Another element, however, may have been a tendency for young emigrating farmers to take their slaves along with them.

While Kent County people moved away from slavery, they moved toward a different system of personal dependence, that of widespread agricultural tenancy. During the troubled 1820s and 1830s, merchants with capital to invest had been able to acquire large landholdings from discouraged families. These investors tended to let the land to tenants. The trend toward tenancy was reinforced by the conviction among many of the period's progressive agriculturists that farms should be kept smaller than formerly, and be more intensively managed.

During the 1850s, with the advent of the railroad and its promise of removing to a large degree the hindrance of perishability of produce during transport over longer distances, Kent County farmers began to expand their orchards and vegetable patches. They sought to broaden the range of potentially marketable agricultural commodities. Peaches were a particularly popular choice, as they had already proved successful in New Castle County, Kent's northern neighbor, which was situated closer to large urban population centers such as Wilmington and Philadelphia (Hancock 1976:22, 34). In the years immediately following the Civil War (i.e., circa 1865-1875), the expanded peach orchards matured, and production of this fruit became a major aspect of the county's agriculture. The raising of strawberries, legumes, salad greens, and other garden vegetables for near city markets also increased in scale, and cannery operations were established in the county's towns in response. It should be noted, however, that corn and wheat continued to be important Kent County commodities during the late nineteenth and early twentieth centuries (Hancock 1976:35-36).

Some parts of the county did not participate in the fruit-and-vegetable movement, continuing instead to concentrate on the traditional mainstay of wheat. Farmers took up dairying on a larger scale than formerly, however, and sent milk and butter to market. Although wheat continued to be a significant local crop into the mid-twentieth century, the amount grown declined somewhat throughout Kent County after the 1870s, when prices for the Middle Atlantic region's wheat fell considerably in response to the rise to ascendence of the Upper Midwest region as the nation's main wheat-growing area (Herman et al. 1989:31-32).

The peach boom proved to be a temporary phenomenon in Kent County. In the 1890s a blight known as the peach yellows ruined many orchards, and over the early and mid-twentieth century peach production in Kent County steadily declined (Hancock 1976:35). The reverses suffered by those farmers who had emphasized wheat or peaches made the final quarter of the nineteenth century

another period of transition, and economic frustration, for many of the county's farmers. The size of the county's population again stagnated, dipping slightly, to 32,762, in 1900 from 32,874 in 1880.

Kent County's farmers met the challenges of this period by following a trend toward diversification, although farming in the mode of a small (i.e., single farmstead) or medium-sized operation never again fulfilled its old local role as the basis for substantial prosperity and upper-middling status. The orchard business ultimately endured as a major aspect of local commercial agriculture, as did farming as an element in the county's overall economic life. In addition, the commercial raising of poultry emerged as an important aspect of the area's agriculture in the early decades of the twentieth century. Chickens had been a fixture of rural dooryards since the earliest settlement in Kent County. The introduction of breeds from the Far East and Europe, beginning in the 1830s, led farmers to initiate their own breeding programs. The Delaware Agricultural Experiment Station was among the earliest (1899) to issue special bulletins on poultry. The initial focus was on egg production, although the opening of specialized canning companies in Dover in the mid-nineteenth century offered some incentive to raise chickens as "marketable meat" (Passmore 1978:56). The development of the broiler industry beginning in the early 1920s transformed poultry farming in Kent (and also Sussex) County, and made this form of agriculture a principal mainstay of the state's economy (Passmore 1978:58-60).

The years since 1939, when International Latex opened its plant outside Dover—the first export manufacturing installation in the county apart from those directly connected with agriculture—have seen a transformation of Kent County's economic life. Manufacturing and the presence of Dover Air Force Base (created in 1940) have broadened local economic activity beyond farming, the related agricultural service and commerce businesses, and the maintenance of the state government, and consequently have drawn new residents to the county (Hancock 1976:36, 72).

The population growth has in turn resulted in a relatively rapid and ongoing growth of exurban residential development. This trend represents a reversal of the decline in rural population that had characterized the 1920s and 1930s.

2. Study Area History

Occupation and land use in the Scarborough Road study area and vicinity have been examined in detail, first in association with archaeological investigations on Denneys Road (Heite and Heite 1985) and more recently within the present study area itself (Heite and Blume 1995a). Based on these studies, the relevant time periods within this Upper Peninsula Zone study area include 1730-1770 (Intensified and Durable Occupation), 1770-1830 (Early Industrialization), 1830-1880s (Industrialization and Early Urbanization), and 1880-1940s (Urbanization and Early Suburbanization). The two key themes are Agriculture and Settlement Patterns, and Demographic Change. According to Heite and Blume (1995a:13-14), property types expected for the historic period in this area are the farmstead, or "toft," the fields from which agricultural products are derived, and the ditches that have made possible the transformation of low-lying areas into productive economic units. The following historical discussion, focusing on those locations that are

the subject of the present archaeological investigations, is summarized from the earlier works cited above.

The study area, now within the corporate boundaries of the City of Dover, was originally contained within Little Creek Hundred and West Dover Hundred, with Fork Branch of the St. Jones River (also called the Dover River) as the boundary between the two. Present-day Denneys Road, the course of which was well established by the early nineteenth century, developed as a ridge road between Chance's Branch and Mudstone Branch to form part of a route connecting a mill on Mudstone Branch with Fast Landing (now Leipzic) on the tidewater (Heite and Blume 1995a:39; Heite and Heite 1985:8).

The portion of the study area situated east of Fork Branch, between Denneys Road and White Marsh Branch (containing the Stormwater Basin No. 3 survey area), was in the mid-1750s part of a farm owned by Benjamin Stout. In 1756, the farm was transferred to Lewis Ganoe, and remained in that family until 1824. In that year it was purchased by Thomas Denney, who some 20 years previously had acquired an adjacent tract, situated between the Kings Road (present-day U.S. Route 13) and the Ganoe Farm. The combined holdings remained in the ownership of successive members of the Denney family until 1936. In 1971, most of the land was sold to the State of Delaware, and was subsequently occupied by the DelTech Terry Campus and Kent Vo-Tech complex (Heite and Blume 1995a:39). According to Heite and Blume (1995a:37, 40), dwellings or tofts associated with each of the Stout, Ganoe, and Denney families were situated at various locations, all northwest of the proposed Scarborough Road alignment and thus away from the proposed location of Stormwater Basin No. 3.

The portion of the study area situated west of Fork Branch (in which proposed Stormwater Basin Nos. 1 and 2 are located) was among a large number of landholdings assembled by Nicholas Loockerman and his son, Vincent, beginning in the 1720s and continuing past the middle of the eighteenth century. By the 1790s, the Loockermans, whose family seat lay east of the river, within the present-day Delaware State College campus, owned over 700 acres west of the river, but apparently did not expend great efforts to improve them. An Orphan's Court valuation of 1796 noted only two tenant farms, one farm of 100 acres occupied by William Farmer, an African-American, and a second farm of about 50 acres then unoccupied (Heite and Blume 1995a:39-41).

In 1818, John Pleasanton purchased 286 acres of the Loockerman family's Dover Hundred holdings. This tract had been set off in 1804 during a division of Loockerman properties among heirs. At that time the tract contained a one-story log dwelling and several "old" outbuildings. Pleasanton continued the Loockermans' tradition of absentee ownership. The land was unpromising for agriculture, consisting largely of freshwater wetlands and stands of hardwood. At the time of the division of Pleasanton's land among his heirs, in 1840, the tract contained two dwellings. One was situated in the northern portion of the property near the river. The second, situated on an 11-acre parcel occupied by a free Black tenant, Nathan Williams, was located further to the south (in present-day terms, at a point near the proposed terminus of Scarborough Road with McKee Road)

(Heite and Blume 1995a:42). Dwellings were depicted at these same approximate locations in Beers's atlas (published in 1868); they were now separated by the line of the Delaware Railroad, constructed through the property in 1856.

Present-day McKee Road was constructed out of Dover extending northerly to Denneys Road, roughly bisecting the Pleasanton heirs' holdings (and within them, the former Nathan Williams tenancy), in 1881. The new road ran immediately west of the dwelling then associated with the Williams tenancy, which was depicted in a survey of 1882 (Heite and Blume 1995a: 44). As located in Phase II investigations, the Williams toft appears to have been situated between 38 and 60 meters (125 and 200 feet) south of the existing farm driveway, or north of the location of proposed Stormwater Basin No. 1.

Within the next few years, most of the property east of the road was conveyed to William Denney, son-in-law of John Pleasanton's daughter Mary DuHamel. During the same period, heirs of another Pleasanton daughter, Eliza Webb, sold a 36-acre portion lying mostly south of the road to Jacob Mosley. The two new owners "squared their boundaries" with respect to the new road by trading small parcels (Heite and Blume 1995a:42). Proposed Stormwater Basin No 2 appears to be situated within a triangular parcel that Jacob Mosley exchanged for a narrow strip of land on his own (west) side of McKee Road (Heite and Blume 1995a:45).

In 1888, William Denney sold his land to Emory Scotten, whose descendants occupy the property today. As the land's first known resident owner, Scotten built a new farmhouse and outbuildings, oriented toward McKee Road but set back some 1,000 feet from it. Early in the twentieth century, the Scottens augmented their traditional mixed-farming livelihood by cutting and selling timber, operating a sawmill (most likely belt-driven from a steam, and later a gasoline, tractor) placed a short distance west of the farmstead (immediately east of the proposed Scarborough Road alignment). Around 1930, the family turned to commercial poultry raising (Heite and Blume 1995a:57-61), evidence of which remains clear in the five chicken houses dating from the 1930s and 1940s on the property.

According to Heite and Blume (1995a:43), Jacob Mosley, owner of the land west of McKee Road, was a so-called "moor," the name locally given to people believed to be descendants of a remnant Native American group known as Nanticokes (see Heite and Heite 1985:19-23 for further discussion). Members of this group were present in the area by the 1760s, originally as relatively substantial landowners, but by the mid- to late nineteenth century consisting chiefly of subsistence farmers. Their Fork Branch community was situated on the west side of that stream near the point where Denneys Road crossed; after 1856 the community was also known as Dupont, after the station established at this location by the Delaware Railroad. By 1868 it included a church and cemetery; a school would be established there by the 1920s (Heite and Heite 1985:16-17).

Almost immediately upon his 1884 purchase of land on McKee Road, Jacob Mosley began to sell off parcels to members of his family and a family named Carney. The result was something of an extension of the Fork Branch community, with simple, two-story farmhouses fronting the road on

small (3-5 acres) farm lots (Heite and Blume 1995a:45, 75ff). The "Mosley Community" remained relatively stable until after World War 11, when later generations of Mosleys and Carneys began to subdivide the land still further, selling long lots with narrow frontages to African-American buyers seeking a "suburban" lifestyle (Heite and Blume 1995a:81, 82). The outlines of the earlier "moor" community remain visible today in the six late nineteenth- and early twentieth-century dwellings still fronting on McKee Road. A seventh house, formerly the house of William Morris Carney, was relocated to the Delaware Agricultural Museum in the early 1970s (Heite and Blume 1995a: 74-85).

V. RESEARCH DESIGN AND METHODOLOGY

Management plans and regional syntheses for prehistoric resources in Delaware (Custer 1986, 1989, 1994; Custer and DeSantis 1986) provide the basis for assessing the overall archaeological sensitivity of the project area and for developing predictions regarding the presence of prehistoric sites. These management plans and syntheses provide settlement pattern data for the prehistory of the region that can be contrasted with patterns observed in Coastal Plain settings in adjacent regions such as New Jersey, where extensive research was conducted on the Abbott Farm National Landmark sites (Wall et al. 1996). The Delaware state plan describes expected site types and their landform associations, together with their chronologies, facilitating the identification of high-probability areas within a given project area. These management plans, together with predictive models developed by the University of Delaware Center for Archaeological Research (UDCAR), provide the basis for most of these predictions.

In Phase I investigations it is generally expected that sites will be found in areas close to high- and low-order streams, salt marshes, brackish and low-salinity marshes, and bay/basin features. The bay/basin depressions during the early Holocene were important water sources and a number of archaeological sites have been found adjacent to them.

The probability of identifying Paleoindian sites in the survey areas was considered to be low. Paleoindian quarries, quarry reduction stations, quarry-related base camps, base camps, and base camp maintenance stations are all considered to have a low probability for occurrence in the Mid-drainage management unit. Paleoindian hunting sites are considered to have a low to moderate probability for occurrence in the Mid-drainage management unit. A broad range of Archaic sites (macroband base camps, microband base camps, and procurement sites) are considered to have a medium probability for occurrence in the Mid-drainage management unit. A variety of Woodland I site types (macroband base camps, microband base camps, procurement sites, minor mortuary/exchange sites and major mortuary/exchange sites) are considered to have a moderate probability for occurrence in the Mid-drainage management unit. For the Woodland II period, macroband base camps and microband base camps have a medium probability for occurrence in the Mid-drainage management unit, while Woodland II procurement sites have a high probability for occurrence in the Mid-drainage management unit. Contact period sites are considered to have a low probability for occurrence in the Mid-drainage management unit (Custer and DeSantis 1986).

More specific predictions regarding the distribution of prehistoric sites within the project area were developed on the basis of the UDCAR predictive model for the nearby State Route 1 corridor, specifically Chestnut Grove Study Area Number 8 (Custer et al. 1986) and surveys by Custer in the St. Jones and Murderkill drainages (Custer and Galasso 1983), and from general analyses based on landform, slope, and surface water. Small procurement sites dating to the Woodland I and Woodland II periods were expected adjacent to the St. Jones River. Procurement sites dating to the Archaic, Woodland I, or Woodland II periods were expected closest to surface water settings of all types, especially wetlands. The edges of the St. Jones River were expected to have high-potential

locations for procurement sites or base camps dating to the Archaic, Woodland I, or Woodland II periods. General predictions regarding the occurrence of historic archaeological sites within the project area may be derived from the state management plans and from the project-specific background research.

A. Phase I Surveys

Five separate survey areas—three proposed stormwater basin areas and two wetland replacement areas—were investigated during the Phase I study conducted by Berger as part of the present project. Because of the minimal surface visibility in all of the survey areas, testing was undertaken using close-interval (20 meters, or 66 feet) shovel testing on a grid pattern. All shovel tests were mapped onto 1"=100' maps supplied by DelDOT. Shovel tests measured approximately 50 centimeters (20 inches) in diameter and were excavated by natural soil strata. Schematic soil profiles, including soil texture and Munsell soil color notation, were recorded for each shovel test on a standardized form, and all excavated soil was screened through ¼-inch mesh. Black-and-white and color-slide photography were used to record sites and general field conditions throughout the study area.

The archaeological potential for the five Phase I survey areas was variable, and depended largely on proximity to surface water and wetland settings. Stormwater Basin No. 1, for example, which was adjacent to McKee Road, was not close to any permanent surface water, so the probability of identifying prehistoric sites there was considered relatively low. Stormwater Basin No. 2, located near a bay/basin feature and a first-order tributary of the St. Jones River, had a higher potential for prehistoric sites. Stormwater Basin No. 3 had the highest archaeological potential of the three, as it was located on a promontory adjacent to the St. Jones River and across from a major confluence. This location could have been the site of a large base camp or procurement camp from which aquatic resources of the St. Jones River and its extensive wetlands would have been exploited. The two wetland replacement areas were located further from associated surface water and were expected to have lower archaeological potential.

B. Phase II Investigations at the Ford Farm Site

Background research was conducted prior to the initiation of field investigations at the Ford Farm Site, and particular emphasis was placed on the findings from earlier Phase I surveys (e.g., Heite and Blume 1992, 1995a), excavations at the nearby White Marsh and Blueberry Hill sites (Heite and Blume 1995a, 1995b), and other pertinent background environmental and archaeological data (e.g., Bedell et al. 1995; Custer 1984, 1989, 1994; Kellogg and Custer 1994). Pertinent information from the Delaware State Historic Preservation Office's Archaeological Site Survey Instructions (revised in 1997) and the *Management Plan for Delaware's Prehistoric Cultural Resources* (Custer 1986) was also reviewed before the field investigations for this project were designed.

The area of the site where deeply buried deposits had been identified during the Phase I fieldwork was along the bluff line (Heite and Blume 1995a). In subsequent work on the site by Berger, it was determined that this area contained few artifacts. The more substantial occupation at the Ford Farm

Site appears to lie further from the bluff line. The estimated size of the site, which is roughly crescent-shaped, was determined at the initiation of Phase II investigations to be about 125 meters long by 50 meters wide (410 by 165 feet). Further away from the bluff, shallow deposits and disturbed areas are present. The Phase II excavations at the site consisted of 19 shovel tests, six 1x1-meter test units, three 1x2-meter test units, three expanded 1x2-meter test units, and one 2x2-meter test unit. In addition, two 30x50-centimeter units were excavated within the walls of the original Phase I units 193 and 195.

The testing strategy at the site involved the following steps:

1) Locating and removing backfill from the Phase I units to determine the nature of the site stratigraphy more clearly.

2) Placing shovel tests along transects at 20-meter (66-foot) intervals within areas determined to contain undisturbed soils.

3) Placing 1x2-meter (3.3x6.6-foot) units across the undisturbed portion of the site.

4) Placing a single 2x2-meter unit near one of the more productive areas of the site to increase the probability of locating features and/or obtaining spatial data. One quarter of the 2x2-meter unit was screened using ⅛-inch mesh screen.

5) Scattering the remaining 1x1-meter units across the more productive areas of the site in an attempt to locate higher-density occupation surfaces. Additional shovel tests were also excavated at this stage because of the generally low yields from all units.

6) Placing 30x50-centimeter (12x20-inch) units in the walls of previously excavated (Phase I) 1x1-meter units to augment the information obtained from the earlier study.

Higher artifact densities were anticipated at the initiation of the Phase II excavations, but the preliminary results dictated the changes in testing strategy noted above in items 5 and 6.

Vertically, the site was excavated in 10-centimeter (4-inch) arbitrary levels. The reason this method was chosen was that evidence of plowing was lacking or very indistinct in some portions of the site. Consequently, A-horizons were divided into arbitrary 10-centimeter levels (e.g., A1, A2, A3). The indistinct lower boundary of the A-horizon was particularly evident in the southern portion of the site. In that portion the base of the A-horizon was indistinct and leached, indicating either that the A-horizon was unplowed or that it had not been plowed in some time. Below the A-horizon, coarse-textured sediments composed the remaining Holocene portion of the profile, which varied in depth across the site. It is estimated that the upper 1 meter of sediments comprised the Holocene stratigraphy on the site, which is shown in Figure 3, in simplified form, as an A/B/C sequence. A more detailed profile analysis undertaken by Foss for the Phase I investigation (Heite and Blume 1995a) shows a Holocene sequence beginning with an Ap surface horizon underlain by an E-horizon

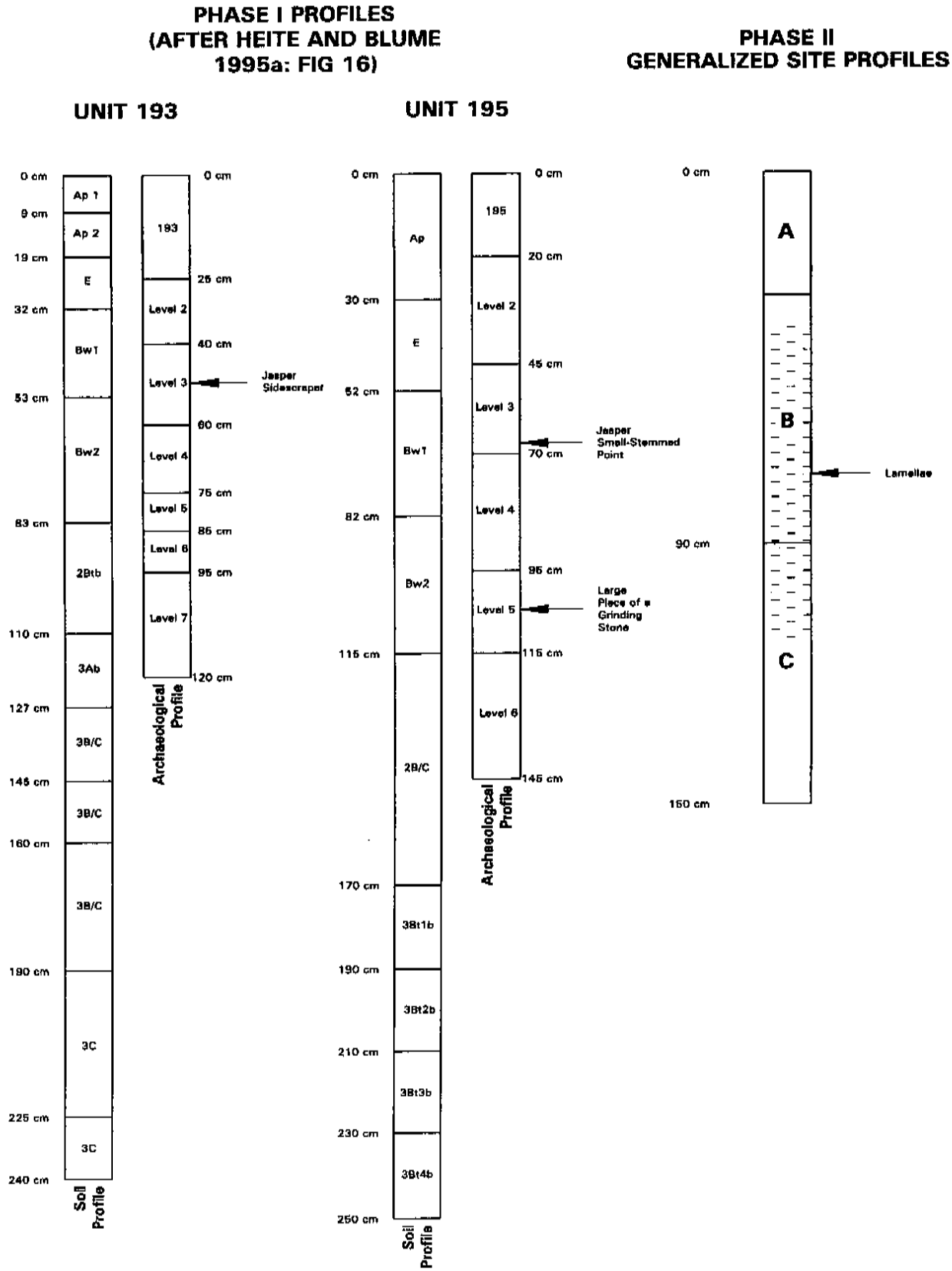

FIGURE 3: Ford Farm Site, Locus E, Stratigraphy

which is underlain by a thicker cambic (Bw) B-horizon. All artifacts recovered from the site during the Phase II work were essentially confined to these horizons, with the majority found in the A- and E-horizons.

VI. RESULTS OF INVESTIGATIONS

A. PHASE I SURVEY FINDS

Berger's Phase I investigations of the three stormwater basins and the two wetland replacement areas (see Figure 1) were undertaken to supplement previous Phase I work conducted by Heite and Blume (1992, 1995a). Of particular concern was the Stormwater Basin No. 3 area, located adjacent to the White Marsh Site, which was investigated as part of the original Phase I survey (Heite and Blume 1992). No sites were located as a result of the supplemental survey conducted by Berger, but a few isolated finds were recovered. Selected soil profiles from the Phase I investigations are shown in Figures 4a and 4b.

1. Stormwater Basin No. 1

The artifacts recovered from 22 shovel tests excavated on a grid pattern in Stormwater Basin No. 1 (Figure 5; see Figure 4a) consisted primarily of recent historic materials such as bottle glass, brick fragments, nail fragments, plastic, and unidentified metal fragments. These items were found in STPs A-2, B-3, C-1, C-2, D-1, D-2, D-4, and D-6. STP D-6 also contained two pieces of jasper block shatter debitage. A typical soil profile in this survey area showed a sandy loam A-horizon ranging from 18 centimeters (7 inches) to more than 30 centimeters (12 inches) deep, overlying a sandy loam or loamy sand B-horizon. The scatter of recent historic artifacts and the isolated find of debitage were not considered to be archaeologically significant. No associated structural remains or other historic features were found in this survey area. Due to the sparseness of finds and their isolated nature, no further work is recommended in this area.

2. Stormwater Basin No. 2

Only two shovel tests out of the 37 excavated produced artifacts in Stormwater Basin No. 2 (Figure 6; see Figure 4a). The finds consisted of one historic ceramic sherd, one piece of glass, and two brick fragments. The soil profiles in this survey area were comparable to those in Stormwater Basin No. 1, but more variable. Sandy loams predominated, with some areas underlain by sandy clay loam B-horizons. Shovel tests were excavated well into B-horizon subsoils in all units. The low number of finds precludes the need for any further work in this area.

3. Stormwater Basin No. 3

In Stormwater Basin No. 3 only two shovel tests out of 45 produced artifacts (Figure 7; see Figures 4a and 4b). The finds included one quartzite early reduction flake from STP M-2 and two pieces of whiteware and one redware sherd from STP C-2. A typical soil profile in this survey area included either sandy loam or loamy sand A-horizons and variable B-horizons, ranging from a sandy texture to sandy clay loam. Some of the shovel tests reached depths of more than one meter below surface. On the basis of the sparse and isolated finds, no further work is recommended for this area.

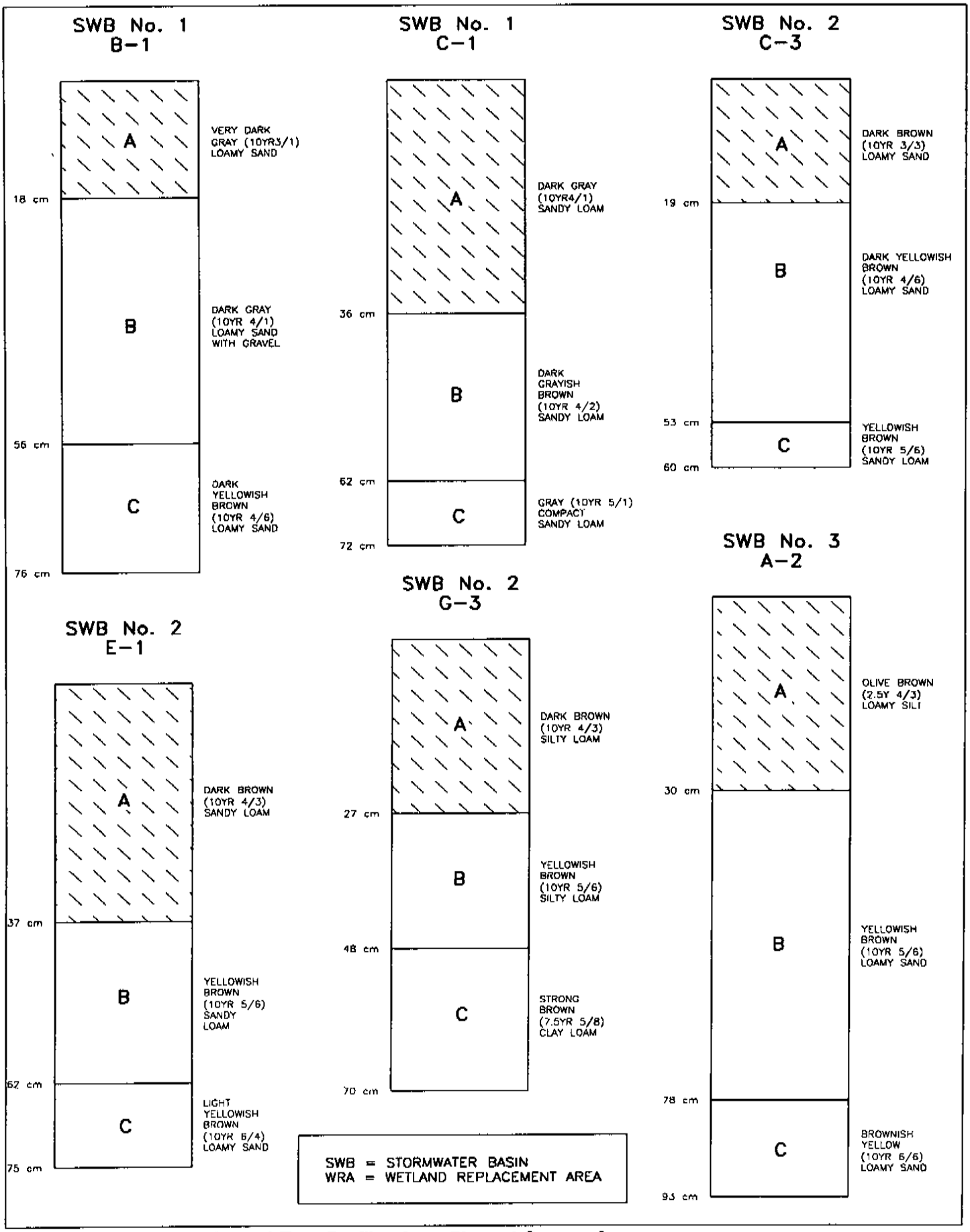

FIGURE 4a: Selected Shovel Test Profiles from Phase I Survey Areas

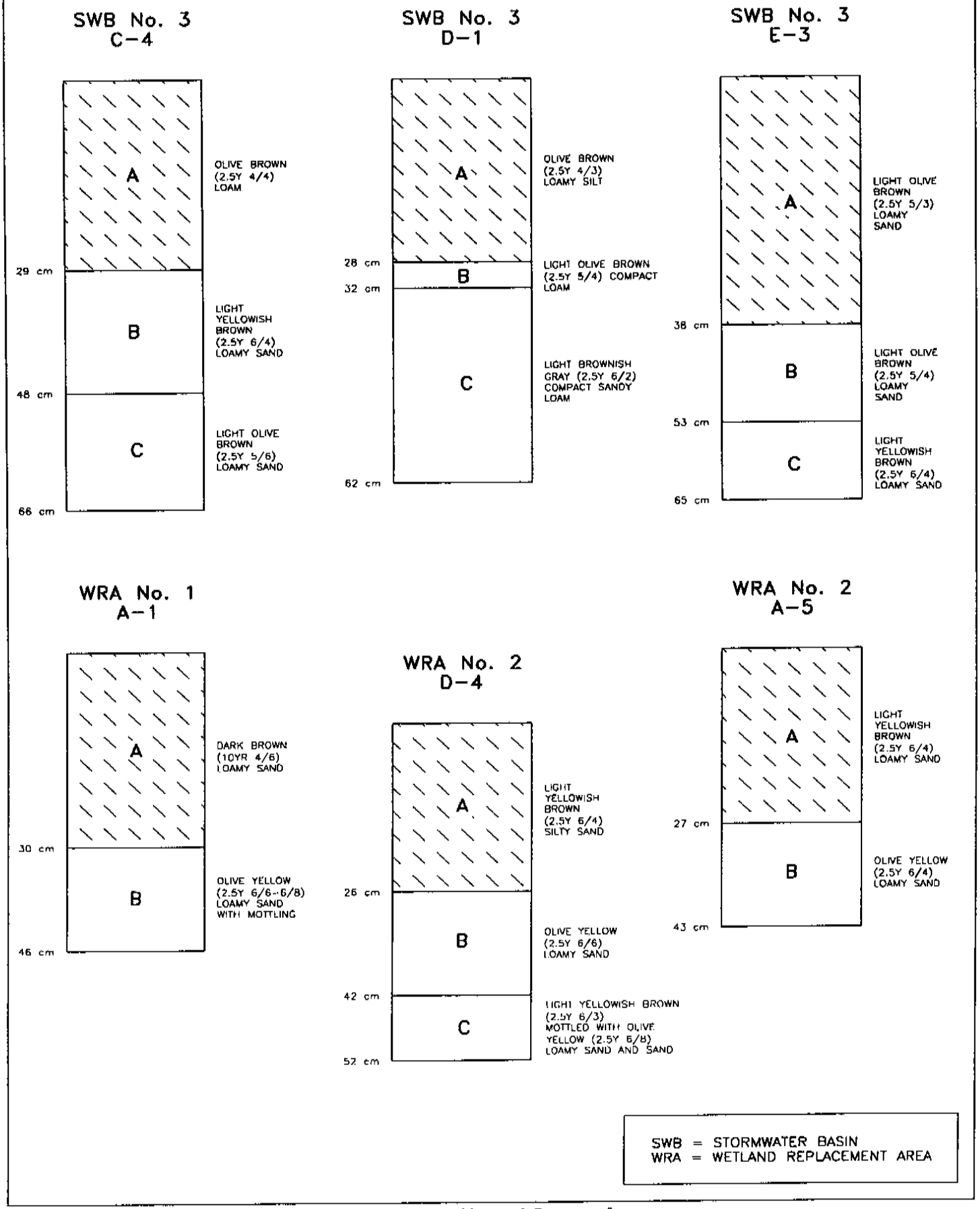

FIGURE 4b: Selected Shovel Test Profiles from Phase I Survey Areas

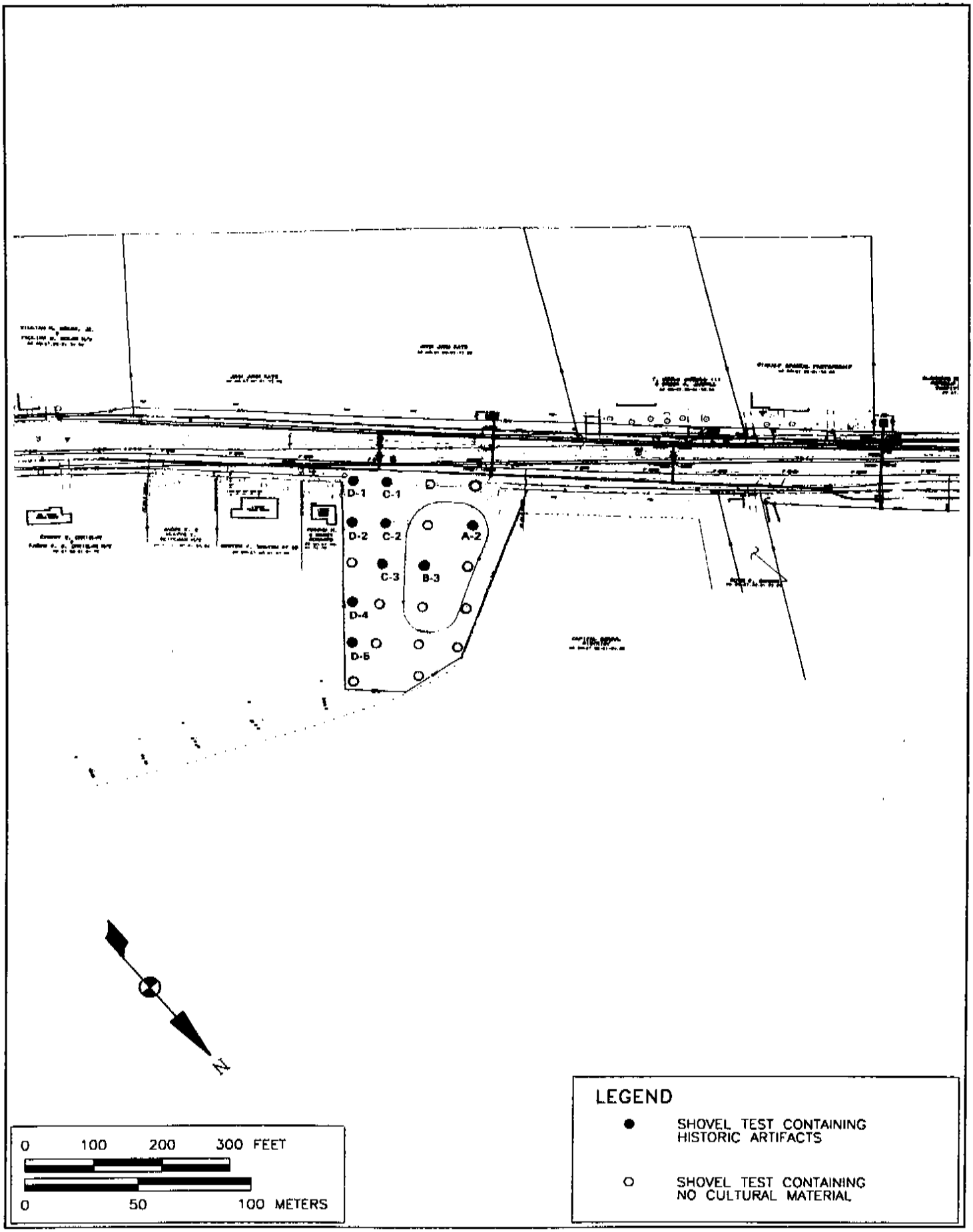

FIGURE 5: Stormwater Basin No. 1 Shovel Test Grid

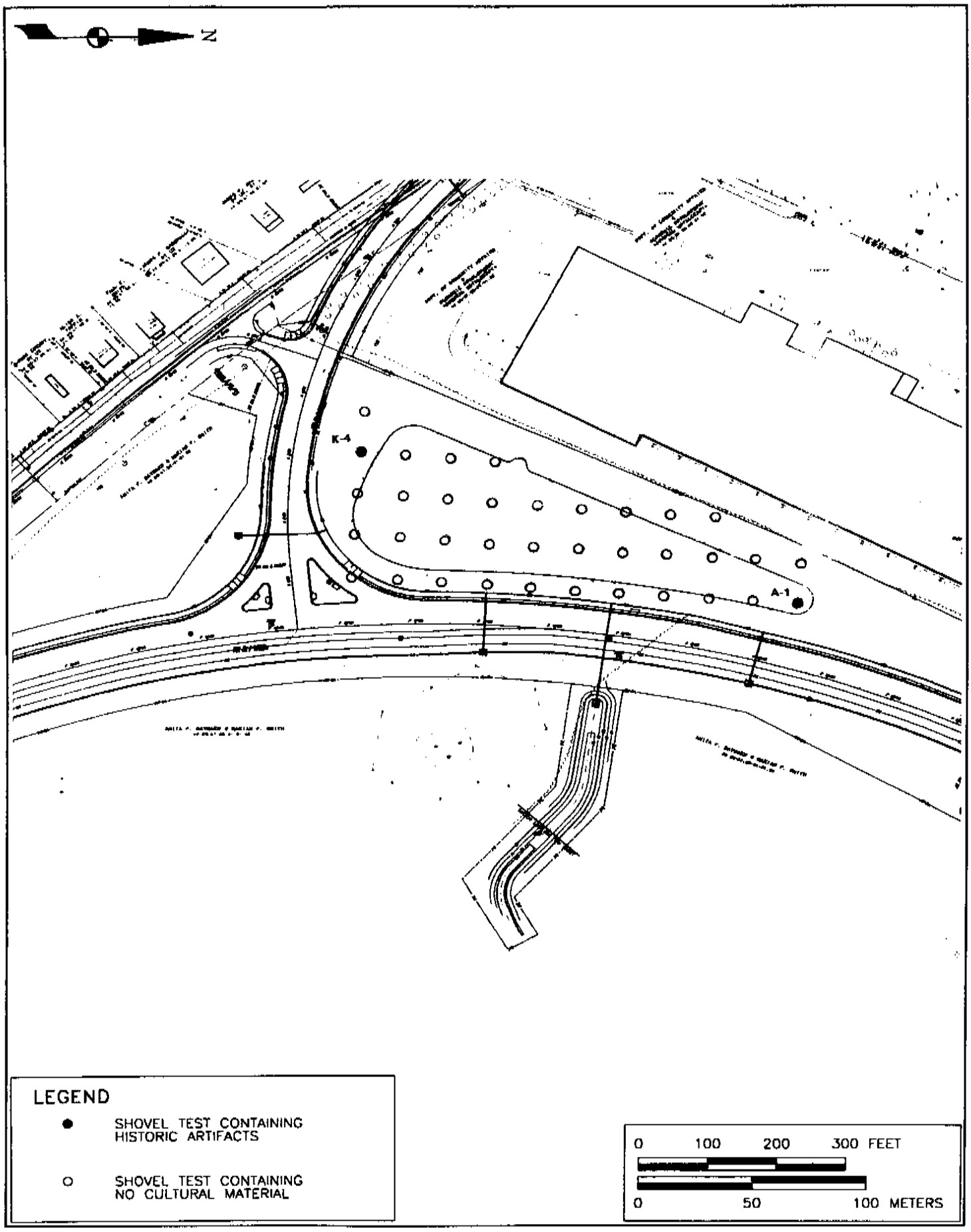

FIGURE 6: Stormwater Basin No. 2 Shovel Test Grid

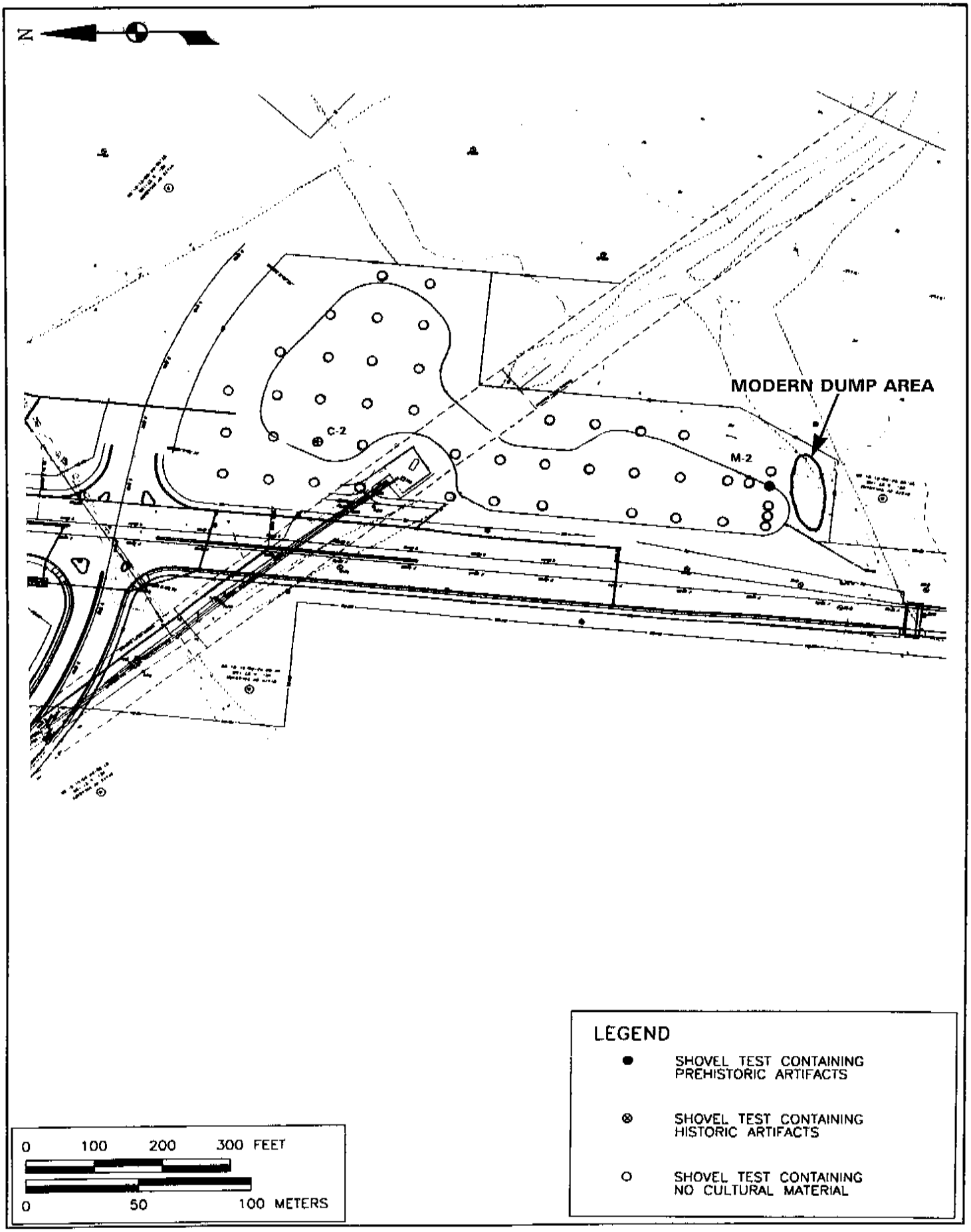

FIGURE 7: Stormwater Basin No. 3 Shovel Test Grid

4. Wetland Replacement Area No. 1

Eleven shovel tests on a grid pattern were excavated in Wetland Replacement Area No. 1 (Figure 8; see Figure 4b). This area is adjacent to the athletic field area that was previously tested by Heite and Blume (1992). No artifacts were found within this wetland replacement area. Typical soil profiles showed a loamy sand overlying B-horizon subsoils of variable texture, from silty loam to sandy loam. Excavation depths ranged from approximately 40 centimeters (16 inches) below surface to more than 60 centimeters (24 inches) below surface.

5. Wetland Replacement Area No. 2

Wetland Replacement Area No. 2 (see Figures 8 and 4b) was partially tested by Heite and Blume as part of a Phase I survey of the corridor (Heite and Blume 1992:67). The finds made at that time were given the site number 7K-C-388. Heite and Blume excavated three hand-dug units and three trenches by means of a gradall. Although a number of historic period artifacts were found in these tests, no intact remains of occupations were encountered. No further work was recommended.

The subsequent work conducted by Berger as part of the present Phase I investigation involved the excavation of 67 shovel tests on a grid pattern that included a portion of the Heite and Blume (1992) survey area as well as surrounding property. A variety of historic period artifacts were found scattered in small clusters across the survey area (see Appendix C); none were associated with any features or buried architectural evidence. A few prehistoric artifacts were also recovered (see Appendix B).

The prehistoric artifacts recovered included three flakes (two quartz and one quartzite) and an early-stage biface of jasper (Cat. No. 6; shown in Section C, Plate 3, i). The biface shows a medial break, which appears to have occurred during the thinning process, as the point of impact is visible on the cortex edge. The piece was made from a cobble. These finds were from the area east of the basketball courts (see Figure 8).

The areas containing historic period artifacts (see Appendix C) included two locations west of the existing basketball courts, one location north of the basketball courts and on both sides of a small grove of trees, and one location on the eastern edge of the survey area. Shovel tests in the area west of the basketball courts yielded one redware sherd, one piece of glass, one wire nail, and one white clay pipe bowl fragment. East of the basketball courts and in the vicinity of the small grove of trees, shovel tests produced three very small brick fragments, two clear pieces of glass, one piece of plain pearlware ceramic, one sherd of delftware (white glaze with blue decoration), and one piece of brown bottle glass. On the eastern edge of the survey area, a cluster of shovel tests produced a few sherds of pearlware (one plain and one shell-edge blue), creamware (one dipped and two plain), and redware (two unglazed and two with light brown glaze), and a small collection of modern architectural debris (machine-cut nail, asphalt roofing tile, rubber, and concrete).

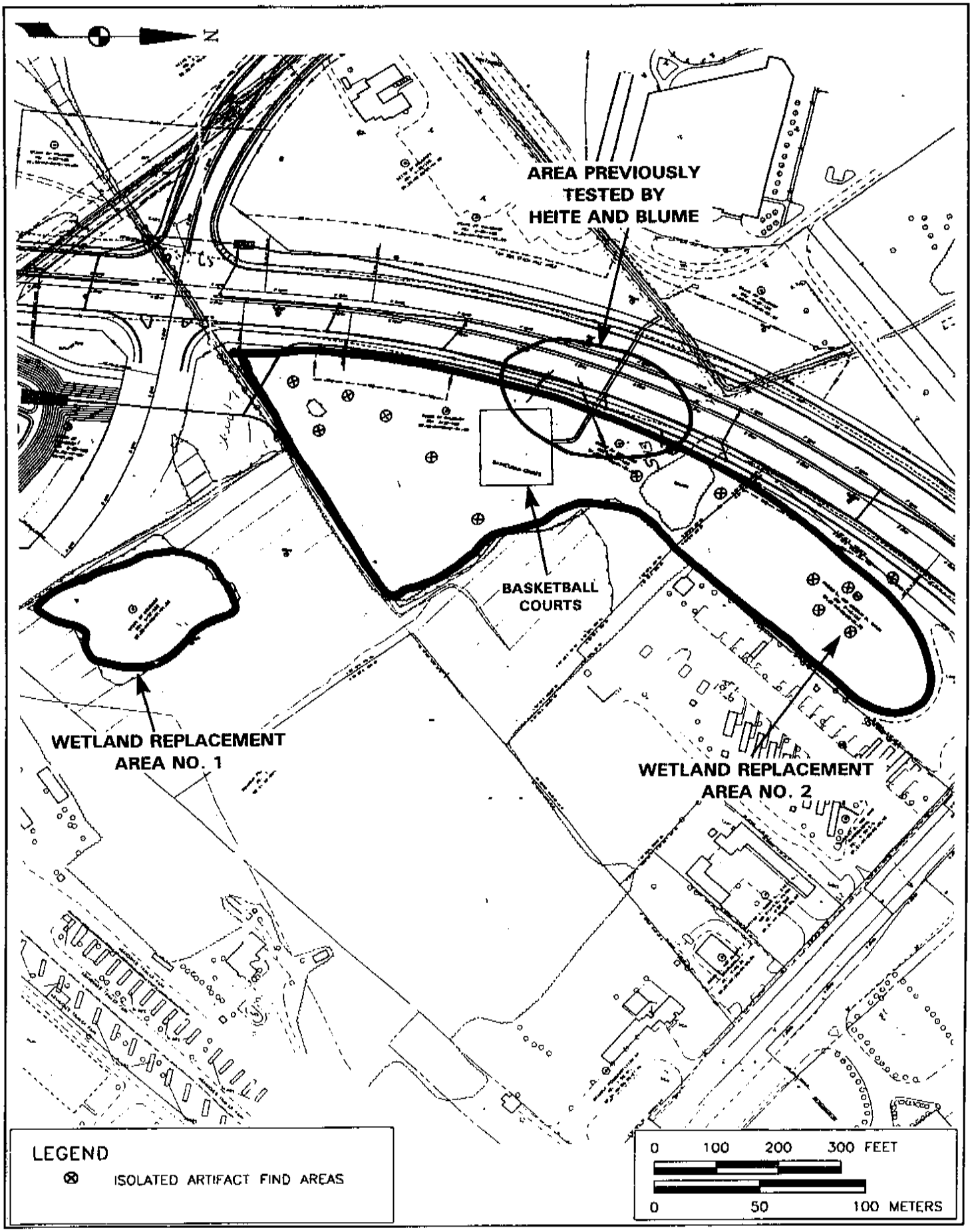

FIGURE 8: Wetland Replacement Areas, Showing Scatter of Isolated Finds

Typical soil profiles showed loamy sands in the A-horizon and in many instances in the B-horizon as well. The B-horizon soils did vary somewhat: some silty clay loams were encountered at shallow depths in a few locations, and other areas had silty loam subsoils. Excavation depths ranged from approximately 35 centimeters (14 inches) below surface to greater than 70 centimeters (28 inches) below surface.

B. Ford Farm Site

Following the location and re-excavation of the Phase I units (Heite and Blume 1995a) and the placement of shovel tests across the site, Berger's Phase II excavations at the Ford Farm Site (7K-C-386E) commenced with the placement of four 1x2-meter units. The Phase I units and the additional shovel tests placed across the site in the Phase II work provided a clearer delineation of site boundaries from which to plan the Phase II unit placement (see Figure 2). Two of the 1x2-meter units were placed in line with Phase I Unit 195 but further away from the bluff edge. The other two 1x2-meter units were placed on both sides of Phase I Unit 193. The re-excavation of Phase I Unit 193 was undertaken specifically to expose the possible feature described in the Phase I report (Heite and Blume 1995a:55-56).

Low artifact yields from the initial 1x2-meter units resulted in a change in the testing strategy, and 1x1-meter units were subsequently scattered in high-probability areas to pinpoint locations with higher artifact frequencies. A 2x2-meter block (Units 12, 13, 14, and 15) was also excavated, to provide better exposure for the delineation of features. One quarter of the 2x2-meter unit was sifted through ⅛-inch mesh to improve artifact recoveries and to sample the microdebitage and other materials that are normally lost through ¼-inch mesh screens.

The prehistoric artifact distributions documented across the site are shown by level in Table 2. The final count from the Phase II unit excavations is 206 artifacts, including the FCR.

The only diagnostic lithic specimen recovered from the Phase II investigations was a single stemmed projectile point fragment from Unit 14, Level B3. The subplowzone occupations identified consist of Woodland I (Early Woodland and probable Archaic) period components, defined by Marcey Creek, Wolfe Neck, and Dames Quarter ceramics, and a deeper but very sparse lithic scatter lacking diagnostic artifacts.

The majority of the occupation across the site is confined to the first four levels, or within 40 centimeters (16 inches) of the surface. There appears to be no clear separation of components in these upper levels and it is likely that most of the cultural material relates to a single Woodland I occupation. Postdepositional factors associated with bioturbation appear to have been responsible for the spread of this primary occupation through the upper four levels.

For the purpose of discussion, the site may be divided into west, bluff edge, and east areas. Differences among the three areas are based on stratigraphic observations and artifact data. Unit

Table 2. Lithic and Ceramic Artifact Frequencies by Arbitrary 10-Centimeter Levels, Ford Farm Site

Excavation Level	Lithics	Ceramics	FCR (weight in grams)
1	10	6	337.4
2	20	24	55
3	13	6	1,136.8
4	24	3	2,011.1
5	26	5	80.3
6	6	1	69.4
7	1	-	-
8	3	-	-
9	2	-	-
10	0	-	-
11	3	-	-
12	2	-	-
13-20	0	-	-
Total	110	45	3,690.0

designations in the discussions below are given by consecutive number, or in some cases, where expansions of the units were undertaken, by combinations of numbers (e.g., Unit 1-2 and Unit 3-4-23). The 19 shovel tests excavated within the site area were predominantly negative. The positive tests (Nos. 3, 5, 6, 7, and 8), along with information from the Phase I investigations, guided unit placement. Artifacts recovered from the positive shovel tests were as follows:

STP 3 - 1 chert biface reduction flake from the A-horizon
STP 5 - 1 jasper flake fragment from the B-horizon
STP 6 - 1 jasper block shatter from the A-horizon
STP 7 - 1 chert biface reduction flake from the B-horizon
STP 8 - 1 jasper flake fragment from the A-horizon and 1 piece of FCR from the B-horizon

The area of the site very close to the bluff edge contained the lowest densities of artifacts (see Figure 2). Soil profiles in this area, based on field observations, exhibited what appeared to be more recent (late Holocene) deposits capping the deeply buried Pleistocene strata.

1. West Area

The west area of the site contains Phase I Units 190 and 191 and Phase II Units 1-2 and 3-4-23. The lithic artifacts recovered from these units consisted of debitage, a single point, and FCR only, although two thick steatite-tempered sherds (15.3 grams) were recovered from Unit 3-4-23. The occupations, with the exception of Unit 3-4-23, are generally shallow and are confined for the most part to the plowzone and E-horizon contexts immediately beneath the plowzone. The deepest and most substantial occupation encountered was in Unit 3-4-23, where artifacts were found as deep as Level 5. The primary occupation in this unit appears to be confined to Levels 3 and 4, or at the plowzone/E-horizon interface.

In Unit 1-2, a single jasper early reduction flake and one quartz block shatter fragment were recovered from the A-horizon, along with one fragment (215 grams) of fire-cracked rock (FCR). In Unit 3-4-23, the A-horizon contained three pieces of FCR (total 20 grams), one jasper point fragment exhibiting heat damage, and three flakes (two chert and one quartz). The B-horizon, in Levels B2-B5, contained eight pieces of FCR (totaling 1,050 grams) scattered through the four levels, along with five flakes: three jasper, one quartz, and one quartzite. The small collection of flakes exhibits evidence of both decortication and biface reduction activities.

The units excavated during the Phase I study by Heite and Blume (1995a) contained comparable amounts of debitage and FCR and encountered no features. In Phase I Unit 190, one quartz chunk and two FCR fragments were recorded in the upper 20 centimeters (8 inches) of the unit, and nothing was found in deeper contexts. In Phase I Unit 191, similar recoveries (one FCR and two flakes) were made from the same stratigraphic position.

No features or patterned activity areas of any kind were recorded in the west area of the site. Overall, the findings in this area were meager and did not provide any indication that more substantial remains exist nearby.

2. Bluff Edge Area

Units 9, 10, 11, and 17 were positioned closer to the bluff edge in an attempt to identify activities associated with this narrowly defined viewing area overlooking the wetlands of the St. Jones River. None of these units produced substantial remains. Unit 9 contained only a single piece of FCR (18 grams), in the A-horizon. Unit 10 contained a jasper bipolar core in the A-horizon, and one jasper biface reduction flake, one piece of jasper flake shatter, and one quartz early reduction flake in the B- horizon, Levels B4 and B5. Unit 11 contained no artifacts and Unit 17 contained only three pieces of FCR (totaling 383 grams) and a single quartzite early reduction flake. The FCR was found in Levels A1 and B3, sufficiently close together to be related to the same event but not substantial enough to comprise a discrete feature or activity area.

The re-excavation of Phase I Unit 195 (i.e., removal of backfill material to re-examine the profile) in the bluff edge area of the site and sampling of the wall of the unit by means of the 30x50-

centimeter Unit 24 yielded only one piece of FCR, a small (5.7-gram) jasper pebble fragment. During the Phase I excavation, Unit 195 had yielded a little more material than the other two Phase I units (190 and 191) nearby in the west area of the site, and at greater depths. The upper levels had contained only a few quartz, chert, and jasper flakes and chunks, and FCR. Between 45 and 70 centimeters (18 and 28 inches) below surface, two more flakes, a jasper small-stemmed point, and three FCR fragments had been recorded. In Level 4 (70-95 centimeters [28-37 inches] below surface), only a grinding stone fragment had been recovered, and nothing below it (Heite and Blume 1995a:108-109).

3. East Area

The east area of the site was the location of Phase I Unit 193 and Phase II Units 5-6-22, 7-8, 12-13-14-15 (a 2x2-meter unit), 19-20, and three individual 1x1-meter units, Units 16, 18, and 21. Together these units composed an elongated (35x10-meter) cluster of units that contained the majority of the site occupation, both Early Woodland and Archaic (see Figure 2).

In Unit 7-8, a 1x2-meter unit, only two flakes and a single ceramic sherd were recovered. The ceramic crumb came from Level 2 (A-horizon), and one quartz flake fragment came from Level 3. A small jasper pressure flake was recovered from Level 9; this artifact may be associated with deep but extremely light recoveries from nearby units.

In Unit 16, approximately 7 meters (23 feet) to the east, a few small (total of 3.8 grams) Dames Quarter sherds were recovered along with a small amount of debitage and FCR. The occupation in this unit appeared in all of the upper six levels, with most of the items recovered from Levels 4 and 5, approximately 40 to 50 centimeters (16-20 inches) below surface. This component may represent a single occupation that has become somewhat dispersed through the profile as a result of postdepositional disturbances in the relatively coarse-textured soils.

The debitage is predominantly early-stage reduction debris, including quartzite and jasper early reduction flakes, block shatter, and decortication flakes. No biface reduction flakes were recovered. The debitage in Levels 3-5 appears to represent a single occupation during which quartzite and jasper cobbles were reduced. The quartzite debris is more substantial, with the largest piece of block shatter weighing 22.9 grams. The association of these materials with Woodland I Dames Quarter sherds provides a time frame (1000 to 750 BC) for this activity. The single piece of FCR (5.6 grams) recovered from Level 2 suggests a nearby hearth location, perhaps a focal point for the activities represented.

The 2x2-meter square (Units 12, 13, 14, and 15) contained the longest record of occupation documented at the site, with artifacts recovered as deep as Level 12. There was no apparent break in the occupation surfaces for the first 90 centimeters (35 inches) below surface, and artifact frequencies were not particularly high—the maximum number of artifacts was nine, in Level 5. Artifact variety was more diverse in this excavation unit than in the other units, however, with a single stemmed projectile point, one hammerstone/mano, two endscrapers, 26 flakes, and a single

fragment of FCR recovered. The debitage is mostly early-stage reduction debris, although two jasper pressure flakes were recovered in the deeper levels. No ceramics were recovered from this unit. The re-excavation of nearby Phase I Unit 193 and sampling of the wall of the unit by means of Unit 21 revealed that the apparent feature reported during Phase I was actually a tree burn. Characteristic root staining and dispersed burn patterns distinguished this anomaly. Flotation samples (3 liters) recovered from Level 15 of Unit 21 (Appendix D) revealed wood charcoal only, consisting of white and red oak.

Much of the ceramic evidence from the site was obtained in the three-unit cluster, Unit 5-6-22. The predominant ware represented is the quartz-tempered Wolfe Neck cordmarked variety, although a few sherds of fabric-impressed Wolfe Neck ware were also recovered. Only a few flakes were obtained from this unit, and they were found at a relatively deep level, approximately 80 and 110 centimeters (31 and 43 inches), below the surface. The flakes may represent part of an earlier Archaic occupation, although no diagnostic artifacts were recovered. The flake recoveries include a few jasper pressure flakes, a chert biface reduction flake, and a quartz flake fragment. A small amount of FCR was recorded in the levels containing Woodland I ceramics (Level 3) along with a quartzite early reduction flake. A single jasper early reduction flake was recovered from the A-horizon of this unit.

At the eastern edge of this occupation area, a relatively large amount of debitage was recovered from Unit 19-20, but only one ceramic sherd. All of this material was confined to the upper 60 centimeters (24 inches) of the profile. The debitage is predominantly jasper and includes a variety of flake types, evidencing all stages of biface reduction as well as bipolar reduction.

In Unit 18, a 1x1-meter unit at the eastern edge of the site, a few steatite-tempered Marcey Creek Woodland I (Early Woodland) sherds and a few flakes and pieces of FCR were obtained from the upper 40 centimeters (16 inches). The recoveries from this unit compare favorably with those recorded in Unit 16, described above. The debitage, although sparse, is predominantly jasper and quartzite early-stage workshop debris, including block shatter, decortication flakes, and early reduction flakes. Again, the association of a small amount of FCR in Levels 2 and 3 (total of 37.2 grams) suggests the presence of a hearth feature nearby, and the ceramics date the event to the Woodland I period.

Overall, the eastern part of the site produced a much larger number of artifacts compared to the western part. There are also at least two components evident. One is a Woodland I occupation, evidenced by ceramics, a few formal tools, and a limited amount of workshop debris. The small amount of workshop debris suggests short-term tool manufacturing activities, core reduction, and individual tool resharpening. The deeper component, which may be Middle to Late Archaic in age (although no diagnostic artifacts were recovered), is represented by limited workshop debris in Unit 6 and the 2x2-meter unit 12-13-14-15. There appears to be a preference for jasper as a raw material in this earlier component. There are also more pressure flakes represented in the earlier component, suggesting individual tool resharpening efforts rather than manufacturing activities or primary reduction.

C. Artifact Analysis

The artifact descriptions presented in this section refer to the Ford Farm site collection only. The isolated artifacts recovered from the Phase I survey areas are briefly discussed, where appropriate, in the Phase I results discussion. Comprehensive inventories for all artifacts from both Phase I and II investigations are listed in Appendices A, B, and C.

1. Laboratory Methods

All artifacts and analytical samples recovered from the Phase II investigations were transported to the Berger laboratory in East Orange, New Jersey, for processing and analysis. After washing of the prehistoric lithics and ceramics, they were separated and placed in resealable plastic bags with an acid-free provenience card containing the following information: site number, catalog number, unit, level, stratum, date of excavation, and excavator's initials. Depending on the nature of the collection, the artifacts were sorted and analyzed according to morphological, material, and functional classes. Temporally or culturally diagnostic artifacts were described according to the established types currently in use in the Middle Atlantic region. Diagnostic artifacts were labeled with their appropriate site number and catalog number.

Artifact analysis was completed in two phases. The initial phase included preparation of an inventory of the materials recovered from the site. The results of this phase of analysis are presented in Appendices A, B, and C. The second phase of the analysis involved a more detailed examination of the prehistoric artifacts, the results of which are discussed below.

Lithic and ceramic artifacts make up the entire prehistoric artifact assemblage from the Ford Farm Site. Lithic tools and debris were analyzed with regard to function, technology, and raw material. The results of the lithic analysis provide at least some preliminary information regarding site function, raw material procurement strategies, and certain aspects of aboriginal technology. The methods employed in the lithic analysis are outlined below.

Projectile points, bifaces, and other lithic tools were described by raw material, measured, and examined for distinctive kinds of wear patterns. Fire-cracked rock was cataloged by raw material, weighed, and examined for evidence of use other than for hearth/stone boiling, the use traditionally inferred for FCR.

Prehistoric ceramics recovered from the site were classified according to the major culture-historical wares defined for the Delmarva Peninsula. They were subsequently sorted into categories reflecting the portion of the vessel they represent: for example, body sherd, rim, basal portion.

Analysis of the data from the classifications outlined above concentrated on defining distinct activity areas or occupational episodes across the site. Comparison was made between defined occupational areas or episodes to determine the degree of redundancy, or the lack thereof. The contents of each

spatially discrete occupational episode or activity area were then analyzed to determine what they represented in terms of functional or culturally specific adaptive patterns.

2. Lithic Raw Material Analysis

The identification of raw materials was based on macroscopic characteristics—color, texture, inclusions, cortex, and hardness. Geological and archaeological type specimens in the Berger type collection were used for comparative purposes to aid in the identification of raw materials. A 10X hand lens and 23X binocular microscope were employed to facilitate the identification of raw materials. For example, various levels of magnification were used to identify inclusions, such as fossils in cherts. The different geological origins of several raw materials are attested to by their distinctive macroscopic characteristics, which permits a high level of confidence in the identification of lithic raw materials.

With respect to chipped-stone artifacts, the majority of the raw materials present in the Ford Farm Site assemblage were grouped into five raw material types: jasper, quartz, quartzite, chert, and argillite. Only one specimen of argillite, a projectile point fragment, was recovered. In the debitage and chipped-stone tool collection (non-FCR and cobble tool artifacts), the most common raw material recovered was jasper, with a total of 76 pieces. Also recovered were 15 quartz artifacts and 12 specimens each of chert and quartzite. Most of the raw material appears to have been obtained from local streambeds and terraces.

3. Prehistoric Ceramic Analysis

The ceramic assemblage recovered from the Phase II investigations consists of 45 sherds, including a number of spalls and crumbs (see Appendix A). The identifiable sherds within this sample can be divided into three distinct ware groups, all representing a Woodland I time frame and found in the same area of the site (see Figure 2). They include Marcey Creek (five sherds; 44.1 grams) (Manson 1948), Dames Quarter (six sherds; 3.0 grams) (Wise 1975), and Wolfe Neck ceramics (18 sherds; 169.3 grams) (Griffith and Artusy 1977). One of the Wolfe Neck specimens includes a basal sherd, but no rims of this type or of any of the other types are represented in the collection.

Surface treatment on most of the sherds, where visible, is s-twist cordmarking, with the exception of a single quartz-tempered sherd which is impressed with final z-twist cordage. Overstamping of cordmarked surface treatment is evident on one of the Wolfe Neck sherds. Cordmarking is evident only on the quartz-tempered sherds. The Marcey Creek sherds are mostly plain, with the exception of two mended sherds that exhibit a herringbone incised surface decoration across the exterior (Plate 2). The incision pattern consists of three parallel lines forming a zig-zag pattern across the sherd. While a few sherd mends were made, most of the ceramics were too small or too poorly preserved for the numbers of vessels to be determined.

PLATE 2: Incised Marcey Creek Sherd from Ford Farm Site

PLATE 3: Lithics from Ford Farm Site and Phase I Investigations:

a. Chert Projectile Point, Locus B (Catalog No. 95)
b. Chert Projectile Point, Locus B (Catalog No. 96)
c. Jasper Bifacial Core (Catalog No. 35)
d. Jasper Projectile Point (Catalog No. 88)
e. Jasper Utilized Flake (Catalog No. 12)
f. Jasper Endscraper (Catalog No. 45)
g. Jasper Endscraper (Catalog No. 45)
h. Argillite Projectile Point (Catalog No. 47)
i. Jasper Early-Stage Biface, Wetland Development Area No. 2 (Catalog No. 6)

4. Lithic Artifact Analysis

Chipped-stone artifacts (see Appendix B) from the site were separated into tools and debitage, and cobble tools and FCR were analyzed separately. It is often difficult to discern whether a broken cobble was actually fractured as a result of thermal stress. The chipped-stone items were identified on the basis of morphology and use-wear. Surfaces and edges were examined for traces of use-polish and damage with the unaided eye and with a 10X hand lens. A conservative approach is taken in the identification of utilized and edge-retouched flake tools, because a number of processes other than intentional use or modification can create edge damage/retouch: for example, trampling on living surfaces, spontaneous retouch during flake detachment, and trowel and shovel damage. Only a single cobble tool was recovered and it was examined for utilization as a hammer or mano.

Chipped-stone tools and debitage were sorted into the following categories: flakes, cores, flake tools, and bifaces. Each category was quantified by count and weight, with length, width, and thickness measurements taken on complete or nearly complete tools. Chipped-stone tools (i.e., cores, bifaces, and flake tools) are described in detail below in the discussion of the primary artifact assemblage from the site.

Field investigations at the Ford Farm Site recovered 206 lithics (see Plate 3 for a sample of selected tools from the site). Appendix B presents an inventory of these materials by provenience. The lithic artifacts include flakes, cores, bifaces, flake tools, and a variety of debitage, exhibiting pebble core technology, bifacial tool manufacturing, and bipolar work.

a. Early Assemblage

The early assemblage from the Ford Farm Site comprises the small number of flakes and the single fragment of FCR found in the deepest levels of the site. It is possible that this deeper component is Middle to Late Archaic in age, although none of the artifacts recovered were diagnostic. The low number of recoveries and the possibility of downward movement of artifacts through the profile make this a tentative assessment. However, the very close proximity of the Blueberry Hill Site, with its deep contexts, gives further credence to this interpretation at Ford Farm. As has been stated above, this component was encountered in the eastern part of the site, within a small area encompassed by the single 2x2-meter unit and Unit 6 (see Figure 2). The component is arbitrarily defined by the collection of artifacts recovered from Levels 8-12 in these two units. The fact that these deep recoveries were clustered in the same area of the site and were found nowhere else (where deep units were also excavated) suggests an association among them.

In all, one piece of FCR and nine pieces of debitage were recovered. The debitage consists of one jasper biface reduction flake, three jasper pressure flakes, one jasper potlid, two jasper flake fragments, one piece of quartz block shatter, and one chert biface reduction flake. The small collection suggests that tool resharpening rather than manufacturing took place on the site. Two of the flakes exhibit cortex. This component of the Ford Farm Site may have been a marginal activity

area related to the nearby Blueberry Hill Site. The scatter of artifacts is too light to permit a more definitive interpretation of the assemblage.

b. Primary Assemblage

The primary artifact assemblage recorded for the Ford Farm Site contains Woodland I ceramics, a few isolated projectile points, and debitage. It is assumed that most of the occupation in the upper five levels of the site relates to this Woodland I time frame, but some ambiguity remains because of the lack of clear natural or cultural stratigraphy.

(1) Bifaces

Only two bifaces were found in the Ford Farm Site excavations (Cat. Nos. 88 and 47; see Plate 3, d and h). Two additional bifaces were surface finds (see Plate 3, a and b) made in Locus B, a beanfield, during the course of general survey work related to site mapping. One of the bifaces (Cat. No. 47) from Locus E, a projectile point, was recovered from Unit 14, Level 3. The point is made from argillite and has a damaged tip and basal stem. The flake scars and edges of the point are eroded and obscure owing to the softness of the raw material. The other biface from Locus E is a heat-damaged jasper point fragment (Cat. No. 88) that was recorded in the A-horizon of Unit 23. It has been broken transversely, leaving the distal end and most of a single lateral edge. The surface of the point is burned red and potlidded. No obvious use wear was observed macroscopically along the edge or on the tip of the specimen.

The surface finds from Locus B include a contracting-stemmed point (Poplar Island) (Cat. No. 95; see Plate 3, a) of chert with a resharpened tip, a crudely chipped base, and step fractures and edge damage along the lateral edges. The edge damage could have been the result of heavy use wear or retouching. The other surface find appears to be a chert Brewerton corner-notched point (Cat. No. 96; see Plate 3, b), which in profile retains much of the original flake curvature. The tip is broken but does not exhibit clear impact damage. The base has been ground, a characteristic typical of Brewerton projectile points.

(2) Unifaces

Three unifacial tools were recovered from the primary component during the Phase II excavations, consisting of two formal scrapers and one flake tool that appears to have been used as a scraper. The flake tool (Cat. No. 12; see Plate 3, e), made from jasper, exhibits some bifacial flaking along the edges surrounding the platform. A large flake was also removed from the ventral surface in the same location. Both the single flake removal and the bifacial retouch appear to have been undertaken to facilitate hafting. The distal end of the flake shows evidence of minimal retouch and some use wear along most of the edge, all on the dorsal surface. The flake has been modified only along the working edge and the hafting area. The rest of the tool remains unmodified.

Two scrapers (both Cat. Nos. 45; see Plate 3, f and g), also made from jasper, were recovered from Level 4 of this component. Both appear to have been made from split pebbles, one sheared in half and retaining its circular form, the other sheared from a larger pebble that was unevenly shattered in the process. The circular scraper (see Plate 3, g) has been retouched along the entire edge. There is no bifacial retouch on the piece and the edge angle varies from 45 to 90 degrees. Use wear is evident along the edges as microflaking damage. The second scraper (see Plate 3, f) also has a variable working edge angle (45-90 degrees), with most of the retouch and use wear evident on the end of the specimen. Edge damage is particularly heavy on the tip of this piece.

(3) Cores

Only a single core (Cat. No. 35; see Plate 3, c) was recovered from the site. This bipolar core is made from jasper and is a small angular piece with deep flake scars and little evidence of consistent flake removal. There are no remnant platforms visible on the specimen and it has the appearance of a large piece of shatter.

(4) Cobble Tools

The only cobble tool recovered from the site is a hammerstone, made of sandstone, that appears to have also functioned as a mano. There is a limited amount of battering damage on the end of the cobble, indicating a hammer function. Evidence of abrasion is limited to a few smooth surfaces that do not appear to be the result of natural agents (i.e., stream abrasion).

(5) Debitage

Debitage accounts for the majority (N=111) of the lithic artifacts retrieved from the Phase II investigations. The debitage shows evidence of all stages of lithic workshop activity from early-stage preparation and decortication to bifacial tool manufacturing and resharpening. Bipolar technology is also represented, but is not evident to the same degree as bifacial work. This is probably due to the difficulty of recognizing bipolar reduction, a process that produces a great deal of shatter. Approximately one-third of the debitage relates to some form of early reduction activity involving bipolar or bifacial work. Much of the evidence appears to be derived principally from the working of cobbles into a usable form for tool manufacture. Cortex is found on all of the raw materials, in varying amounts, and both block cortex and cobble cortex are represented. Much of this material seems to have been locally available and to have been used for both biface and flake-tool production. Platform attributes of several flakes indicate that some biface production did take place, although some flakes indicate the results of biface maintenance rather than biface production.

Tables 3 and 4 are presented to simplify comparison between Woodland areas of the site. In the early (pre-Woodland) component of the site, only 10 lithics were found below Level 7. They consisted of one piece of FCR and nine pieces of debitage (one jasper biface reduction flake, three jasper pressure flakes, one jasper potlid [heat spall], two jasper flake fragments, one piece of quartz block shatter, and one chert biface reduction flake).

From the sample of prehistoric artifacts recovered during Berger's investigations at the Ford Farm Site, it appears that the main occupation of the area investigated occurred during the Woodland I period. Common activities represented are cobble reduction for tool manufacture, flake-tool production, biface resharpening, and hearth usage. The last of these is suggested by the presence of FCR. Raw material use was based almost exclusively upon locally available cobble raw materials such as jasper, chert, quartz, and quartzite.

Table 3. East Area Debitage Assemblage (Upper Component), Ford Farm Site

Flake Type	Jasper	Quartz	Quartzite	Chert	Total
Biface Reduction	7	-	-	-	7
Pressure Flake	-	-	-	-	0
Early Reduction	6	4	4	-	14
Decortication	3	-	2	-	5
Block Shatter	6	-	3	2	11
Flake Shatter	2	-	1	-	3
Flake Fragment	4	4	1	1	10
Other Flake Type	2	-	-	-	2
Total	30	8	11	3	52

Table 4. West Area Debitage Assemblage (Upper Component), Ford Farm Site

Flake Type	Jasper	Quartz	Quartzite	Chert	Total
Biface Reduction	1	-	-	-	1
Early Reduction	2	1	1	-	4
Decortication	2	-	-	1	3
Block Shatter	-	1	1	-	2
Flake Fragment	-	1	-	1	2
Total	5	3	2	2	12

The lithic raw materials recovered from the site are typical for the Delaware Coastal Plain—jasper, quartz, quartzite, and chert, including a number of flakes derived from cobble sources. Very few finished tools were recovered, only a single argillite stemmed projectile point fragment, a jasper point fragment, a jasper bipolar core, two jasper scrapers, and a hammerstone. The ceramic assemblage is more diverse, containing three Woodland I types (Marcey Creek, Dames Quarter, and Wolfe Neck) in a collection of only 45 sherds.

VII. SUMMARY AND RECOMMENDATIONS

The light scatters of historic period artifacts found in the Stormwater Basin survey areas and in Wetland Replacement Area No. 2 do not appear to be associated with any discrete historic archaeological sites or architectural remains. No features or significant artifact clusters were defined as a result of the subsurface tests in these Phase I survey areas, and the isolated occurrences of prehistoric artifacts are also not considered to be significant. The artifacts recovered from Stormwater Basin No. 1 consisted only of recent historic artifacts and isolated debitage in poor contexts. From Stormwater Basin No. 2, additional isolated finds of historic period artifacts came from two shovel tests. Similarly, from Stormwater Basin No. 3, one isolated flake and two historic ceramics came from isolated locations.

A portion of Wetland Replacement Area No. 2 had previously been tested by Heite and Blume (1992) and no further work was recommended based on the results of their survey. Historic period artifacts and a few lithics were recovered from the Berger Phase I tests in Wetland Replacement Area No. 2, but no features or intact buried remains were located. Wetland Replacement Area No. 1 also had negative results. From all of these Phase I survey areas, the finds can be characterized as isolated occurrences with poor contexts. None of the findings are substantial enough to make a contribution to Delaware prehistory or history; consequently, they are not considered to be significant, nor are they considered to be eligible for the National Register.

The Ford Farm Site (7K-C-386E), where the Phase II investigations were conducted, is interpreted as a small short-term camp occupied principally during the Woodland I period, but with some evidence of an earlier occupation of probable Middle to Late Archaic age. It is likely that much of the assemblage represents marginal activities associated with the more substantial Blueberry Hill Site nearby. Blueberry Hill may have been more intensively occupied, as a result of its location close to a major stream confluence. There may also be other more intensively occupied sites further east along the bluff overlooking the St. Jones River. It is reasonable to assume that well-drained localities along the river would contain a number of such sites. Between these favored site localities would be the intermittently used sites such as Ford Farm. Such sites have intact contexts with prehistoric occupations but insufficient cultural data to generate any clear statements on the nature of the occupations.

The artifact assemblage recorded at the Ford Farm Site during the Phase II investigations exhibits considerable uniformity, which is most often an indication of a short-term occupation. Variety in artifact classes is generally attributed to camp or habitation use of a setting. This distinction is based on the assumption that the more time and/or people involved in the use of an area, the greater will be the number of activities performed. Activity variety is presumed to be reflected in artifact variety. A station type of site, representing the activities of individuals or small groups on hunting and gathering forays, is probably indicated for this location, although the fact that only a small portion of the total site area was examined may have skewed the results in favor of this interpretation.

Phase II archaeological investigations at the Ford Farm Site (7K-C-386E) provided some limited data which will contribute to an understanding of Woodland I settlement patterns and chronological themes. It also provided community pattern data regarding what appears to be a very discrete but light occupation. The lack of features and clearly defined activity areas provides little information for addressing questions of subsistence, environmental adaptations, and other key themes in Delaware prehistory. Generally, the interpretable spatial patterning on the site is confined to a single area of Woodland I (Early Woodland) artifacts in the upper horizons of the site and a more deeply buried but very sparse lithic scatter of probable Middle to Late Archaic (pre- to early Woodland I) affiliation. Given more substantial artifact recoveries in similar clear contexts, this type of site could potentially contain significant information. However, the site lacks the information necessary to contribute significantly to our understanding of basic research themes defined for the Woodland I period by Custer (1994). These themes include paleoenvironmental studies, chronology, household patterns, regional settlement patterns, subsistence systems, trade and exchange, mortuary ceremonialism, ceramic technology, and lithic technology. There is not enough substance to the data recovered from the Phase II excavations, nor is there the potential to recover such data in Phase III to address these themes, except on a very superficial level. Consequently, the site is considered to be ineligible for the National Register.

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APPENDIX A

CERAMIC INVENTORY FROM SITE 7K-C-386E

FORD FARM Site 7K-C-386e /97/0018

CAT#	TRSCT	LOC	UNIT	STP	STR	LEV	FEA	FEA QAD	ART#	CMTS	FORM	TEMPER	SURFACE EXT.	SURFACE INT.	DECOR.EXT.	DECOR.INT.	COUNT	WEIGHT	THICKNS
22	-	E	05	-	A	01	-	-	-	-	Body	Quartz	Cordmarked	-	-	-	1	9.8	8.
											Note: S-TWIST.								
22	-	E	05	-	A	01	-	-	-	-	Body	Quartz	Cordmarked	-	-	-	1	1.6	-
											Note: SAME VESSEL IN CAT.26 BUT NO MENDS.								
23	-	E	05	-	B	02	-	-	-	-	Body	Quartz	Cordmarked	-	-	-	1	5.4	-
23	-	E	05	-	B	02	-	-	-	-	Body	Quartz	Cordmarked	-	-	-	1	30.5	11.
											Note: S-TWIST; BASAL SHERD ?								
23	-	E	05	-	B	02	-	-	-	-	Body	Quartz	Cordmarked	-	-	-	1	9.1	7.5
23	-	E	05	-	B	02	-	-	-	-	Body	Quartz	Cordmarked	-	-	-	1	8.9	7.5
23	-	E	05	-	B	02	-	-	-	-	Body	Quartz	Fabric Impressed	-	-	-	1	14.4	9.
											Note: Z-TWIST.								
23	-	E	05	-	B	02	-	-	-	-	Body	Quartz	Cordmarked	-	-	-	1	2.3	-
23	-	E	05	-	B	02	-	-	-	-	Body	Quartz	Cordmarked	-	-	-	1	4.6	-
23	-	E	05	-	B	02	-	-	-	-	Body	Quartz	Cordmarked	-	-	-	1	2.7	-
23	-	E	05	-	B	02	-	-	-	-	Body	Quartz	Cordmarked	-	-	-	1	4.8	-
23	-	E	05	-	B	02	-	-	-	-	Body	Quartz & Mica	Cordmarked	-	-	-	1	12.9	7.5
											Note: S-TWIST.								
23	-	E	05	-	B	02	-	-	-	-	Crumb	-	-	-	-	-	3	1.1	-
24	-	E	05	-	B	03	-	-	-	-	Body	Quartz	Cordmarked	-	-	-	1	1.4	-
24	-	E	05	-	B	03	-	-	-	-	Body	Quartz & Mica	Cordmarked	-	-	-	1	5.6	8.
											Note: S-TWIST; SAME VESSEL IN CAT.27.								
24	-	E	05	-	B	03	-	-	-	-	Crumb	-	-	-	-	-	3	1.2	-
25	-	E	06	-	A	01	-	-	-	-	Body	Quartz	Cordmarked	-	-	-	1	3.7	9.5
											Note: S-TWIST.								

FORD FARM Site 7K-C-386e /97/001B - Prehistoric Pottery Inventory

CAT#	TRSCT	LOC	UNIT	STP	STR	LEV	FEA	QAD	ART#	CMTS	FORM	TEMPER	SURFACE EXT.	SURFACE INT.	DECOR.EXT.	DECOR.INT.	COUNT	WEIGHT	THICKNS
26	-	E	06	-	B	02	-	-	-	-	Body	Quartz	Cordmarked	-	-	-	1	7.1	8.
											Note: S-TWIST.								
26	-	E	06	-	B	02	-	-	-	-	Body	Quartz	Cordmarked	-	-	-	1	53.3	8.
											Note: S-TWIST; WITH SOME OVERSTAMPING; SAME VESSEL IN CAT.22 BUT NO MENDS.								
27	-	E	06	-	B	03	-	-	-	-	Body	Quartz	Cordmarked	-	-	-	1	4.5	9.
											Note: SAME VESSEL IN CAT.24. INDETERMINATE.								
30	-	E	07	-	B	02	-	-	-	-	Crumb	-	-	-	-	-	2	0.2	-
61	-	E	16	-	B	04	-	-	-	-	Crumb	-	-	-	-	-	2	0.8	-
62	-	E	16	-	B	05	-	-	-	-	Crumb	Quartz/Nepheline Syenite	-	-	-	-	5	2.6	-
63	-	E	16	-	B	06	-	-	-	-	Crumb	Quartz/Nepheline Syenite	-	-	-	-	1	0.4	-
67	-	E	18	-	B	02	-	-	-	-	Body	Steatite	-	-	-	-	1	4.9	6.5
67	-	E	18	-	B	02	-	-	-	-	Body	Steatite	-	-	-	-	1	6.1	7.
69	-	E	18	-	B	04	-	-	-	-	Body	Steatite	-	-	Incised	None/Absent	1	17.8	9.
											Note: PHOTO.								
76	-	E	20	-	B	02	-	-	-	-	Crumb	-	-	-	-	-	1	0.6	-
84	-	E	22	-	A	01	-	-	-	-	Body	Quartz & Mica	Cordmarked	-	-	-	3	7.2	-
											Note: THICKNES 9-12 mm.								
85	-	E	22	-	B	02	-	-	-	-	Body	Quartz	Cordmarked	-	-	-	2	5.2	8.
88	-	E	23	-	A	02	-	-	-	-	Body	Steatite	Indeterminate	Indeterminate	None/Absent	None/Absent	2	15.3	-
											Note: THICKNES IS 11.1-8.8 mm, 8.9-7.1 mm.								

APPENDIX B

LITHIC ARTIFACT INVENTORY FROM SITE 7K-C-386E AND PREHISTORIC ARTIFACT INVENTORIES FROM PHASE I SURVEY AREAS

FORD FARM Site/Accsn#: 7K-C-386b / 97/0018 - Lithic Inventory

CAT#	Row#	TRSCT	LOC	UNIT	STP	STR	LEV	FEA	FEA QAD	ART#	CMTS	CLASS	MATERIAL	TYPE	CORTEX	COND	COUNT	WEIGHT	LENGTH	WIDTH	THICKNS
95	1	-	B	-	-	SS	-	-	-	-	-	Bifaces	Chert	Projectile Points	Absent	WHL	1	4.7	44.5	16.7	6.9
BEAN FIELD 20m 180° FROM STAKE 258												Note:STEMMED POINT.									
96	2	-	B	-	-	SS	-	-	-	-	-	Bifaces	Chert	Projectile Points	Absent	WHL	1	5.8	33.3	24.	6.3
BEAN FIELD 45m 256° FROM STAKE 258												Note:CORNER-NOTCHED POINT TIP PROBABLY BROKEN ON IMPACT.									

FORD FARM Site/Accsn#: 7K-C-386e / 97/0018

CAT#	Row#	TRSCT	LOC	UNIT	STP	STR	LEV	FEA	FEA QAD	ART#	CMTS	CLASS	MATERIAL	TYPE	CORTEX	COND	COUNT	WEIGHT	LENGTH	WIDTH	THICKNS
1	66	-	E	-	03	A	-	-	-	-	-	Debitage	Chert	Biface Reduction Flakes	Absent	-	1	0.6	-	-	-
3	67	-	E	-	05	B	-	-	-	-	-	Debitage	Jasper	Flake Fragments	Absent	-	1	0.2	-	-	-
												Note:POSSIBLE PRESSURE FLAKE.									
4	68	-	E	-	06	A	-	-	-	-	-	Debitage	Jasper	Block Shatter	Absent	-	1	0.7	-	-	-
5	69	-	E	-	07	B	-	-	-	-	-	Debitage	Chert	Biface Reduction Flakes	Absent	-	1	0.3	-	-	-
6	70	-	E	-	08	A	-	-	-	-	-	Debitage	Jasper	Flake Fragments	Cobble	-	1	1.	-	-	-
7	71	-	E	-	08	B	-	-	-	-	-	Fire-cracked Rock	Quartzite	-	-	-	1	58.6	-	-	-
9	73	-	E	01	-	A	02	-	-	-	-	Debitage	Quartz	Block Shatter	Cobble	-	1	0.4	-	-	-
9	72	-	E	01	-	A	02	-	-	-	-	Debitage	Jasper	Early Reduction Flakes	Absent	-	1	0.5	-	-	-
11	74	-	E	02	-	A	03	-	-	-	-	Fire-cracked Rock	Metamorphic	-	-	-	1	215.	-	-	-
												Note:SCHIST.									
12	75	-	E	03	-	A	01	-	-	-	-	Unifaces	Jasper	Utilized Flakes	Cobble	WHL	1	4.7	36.3	28.5	5.7
13	80	-	E	03	-	A	02	-	-	-	-	Debitage	Chert	Decortication Flakes	Cobble	-	1	0.8	-	-	-

CAT#	Row#	TRSCT	LOC	UNIT	STP	STR	LEV	FEA	FEA QAD	ART#	CMTS	CLASS	MATERIAL	TYPE	CORTEX	COND	COUNT	WEIGHT	LENGTH	WIDTH	THICKNS
13	76	-	E	03	-	A	02	-	-	-	-	Debitage	Chert	Flake Fragments	Absent	-	1	0.3	-	-	-
13	77	-	E	03	-	A	02	-	-	-	-	Debitage	Quartz	Flake Fragments	Absent	-	1	0.8	-	-	-
13	78	-	E	03	-	A	02	-	-	-	-	Fire-cracked Rock	Jasper	-	-	-	2	3.	-	-	-
13	79	-	E	03	-	A	02	-	-	-	-	Fire-cracked Rock	Quartzite	-	-	-	1	9.4	-	-	-
20	41	-	E	03	-	B	03	-	-	-	-	Fire-cracked Rock	Quartzite	-	-	-	9	768.4	-	-	-
15	62	-	E	03	-	B	04	-	-	-	-	Debitage	Quartz	Early Reduction Flakes	Absent	-	1	2.5	-	-	-
15	63	-	E	03	-	B	04	-	-	-	-	Fire-cracked Rock	Jasper	-	-	-	2	4.9	-	-	-
15	61	-	E	03	-	B	04	-	-	-	-	Fire-cracked Rock	Quartzite	-	-	-	14	1520.9	-	-	-
16	64	-	E	03	-	B	05	-	-	-	-	Fire-cracked Rock	Quartzite	-	-	-	1	75.6	-	-	-
18	65	-	E	04	-	A	02	-	-	-	-	Debitage	Jasper	Early Reduction Flakes	Absent	-	1	2.4	-	-	-
21	44	-	E	04	-	B	04	-	-	-	-	Debitage	Jasper	Biface Reduction Flakes	Absent	-	1	0.8	-	-	-
21	43	-	E	04	-	B	04	-	-	-	-	Debitage	Jasper	Decortication Flakes	Cobble	-	1	0.5	-	-	-
21	42	-	E	04	-	B	04	-	-	-	-	Fire-cracked Rock	Quartzite	-	-	-	3	253.2	-	-	-
28	45	-	E	06	-	C	08	-	-	-	-	Debitage	Chert	Biface Reduction Flakes	Absent	-	1	0.2	-	-	-
29	46	-	E	06	-	D	11	-	-	-	-	Debitage	Jasper	Pressure Flakes	Absent	-	1	0.2	-	-	-
31	47	-	E	08	-	C	03	-	-	-	-	Debitage	Quartz	Flake Fragments	Cobble	-	1	0.4	-	-	-
32	48	-	E	08	-	D	09	-	-	-	-	Debitage	Jasper	Pressure Flakes	Absent	-	1	0.2	-	-	-
34	49	-	E	09	-	A	04	-	-	-	-	Fire-cracked Rock	Quartzite	-	-	-	1	18.6	-	-	-

CAT#	Row#	TRSCT	LOC	UNIT	STP	STR	LEV	FEA	FEA QAD	ART#	CMTS	CLASS	MATERIAL	TYPE	CORTEX	COND	COUNT	WEIGHT	LENGTH	WIDTH	THICKNS
35	50	-	E	10	-	A	01	-	-	-	-	Cores	Jasper	Bifacial Core	Absent	-	1	14.3	-	-	-
36	51	-	E	10	-	B	04	-	-	-	-	Debitage	Jasper	Biface Reduction Flakes	Absent	-	1	0.2	-	-	-
37	52	-	E	10	-	B	05	-	-	-	-	Debitage	Quartz	Early Reduction Flakes	Absent	-	1	1.9	-	-	-
37	53	-	E	10	-	B	05	-	-	-	-	Debitage	Jasper	Flake Shatter	Cobble	-	1	0.1	-	-	-
38	55	-	E	12	-	B	05	-	-	-	-	Debitage	Jasper	Block Shatter	Cobble	-	1	0.6	-	-	-
38	56	-	E	12	-	B	05	-	-	-	-	Debitage	Jasper	Early Reduction Flakes	Absent	-	1	0.2	-	-	-
38	54	-	E	12	-	B	05	-	-	-	-	Debitage	Jasper	Other Flake Types	Cobble	-	2	0.3	-	-	-
39	57	-	E	12	-	BC	07-14	-	-	-	-	Debitage	Chert	Flake Shatter	Cobble	-	1	0.1	-	-	-
40	59	-	E	12	-	C	09	-	-	-	-	Debitage	Jasper	Pressure Flakes	Absent	-	1	0.1	-	-	-
40	58	-	E	12	-	C	09	-	-	-	-	Fire-cracked Rock	Sandstone	-	-	-	1	69.4	-	-	-
41	60	-	E	12	-	C	11	-	-	-	-	Debitage	Chert	Pressure Flakes	Absent	-	1	0.1	-	-	-
42	1	-	E	12	-	C	12	-	-	-	-	Debitage	Jasper	Other Flake Types	Cobble	-	1	0.1	-	-	-
43	2	-	E	13	-	B	02	-	-	-	-	Debitage	Quartz	Early Reduction Flakes	Cobble	-	1	1.3	-	-	-
44	3	-	E	13	-	B	03	-	-	-	-	Debitage Note:A FRAGMENT OF DECORTICATION FLAKE.	Quartzite	Decortication Flakes	Cobble	-	1	0.4	-	-	-
45	6	-	E	13	-	B	04	-	-	-	-	Debitage	Chert	Block Shatter	Cobble	-	1	1.1	-	-	-
45	4	-	E	13	-	B	04	-	-	-		6 Unifaces Note:SOME PATINA.	Jasper	Endscrapers	Absent	BRK	1	9.6	26.9	19.8	6.9
45	5	-	E	13	-	B	04	-	-	-		6 Unifaces	Jasper	Endscrapers	Cobble	WHL	1	8.4	26.4	32.4	8.5

CAT#	Row#	TRSCT	LOC	UNIT	STP	STR	LEV	FEA	FEA QAD	ART#	CMTS	CLASS	MATERIAL	TYPE	CORTEX	COND	COUNT	WEIGHT	LENGTH	WIDTH	THICKNS
46	7	-	E	14	-	B	02	-	-	-	-	Debitage	Chert	Flake Fragments	Absent	-	1	0.1	-	-	-
46	8	-	E	14	-	B	02	-	-	-	-	Debitage	Quartz	Flake Fragments	Absent	-	1	0.8	-	-	-
47	9	-	E	14	-	B	03	-	-	-	6	Bifaces Note:SHORT STEM POINT TIP SLIGHTLY BROKEN.	Argillite	Projectile Points	Absent	WHL	1	6.8	34.3	25.	7.2
48	11	-	E	14	-	B	04	-	-	-	-	Debitage	Quartz	Flake Shatter	Absent	-	1	0.4	-	-	-
48	10	-	E	14	-	B	04	-	-	-	-	Debitage	Jasper	Other Flake Types	Cobble	-	1	0.2	-	-	-
49	12	-	E	14	-	B	06	-	-	-	-	Debitage	Jasper	Decortication Flakes	Cobble	-	1	1.1	-	-	-
50	13	-	E	14	-	B	07	-	-	-	-	Debitage	Jasper	Flake Fragments	Absent	-	1	0.1	-	-	-
51	14	-	E	14	-	B	08	-	-	-	-	Debitage Note:POT LID.	Jasper	Indeterminate Flakes	Cobble	-	1	0.8	-	-	-
52	16	-	E	15	-	A	01	-	-	-	-	Cobble Tools Note:A COBBLE PROBABLY USED AS HAMMERSTONE AND MANO.	Sandstone	Other Cobble Tools	Absent	BRK	1	315.6	87.6	57.1	51.6
52	15	-	E	15	-	A	01	-	-	-	-	Debitage Note:POSSIBLE PRESSURE FLAKE.	Jasper	Flake Fragments	Absent	-	1	0.1	-	-	-
53	17	-	E	15	-	B	02	-	-	-	-	Debitage	Jasper	Block Shatter	Cobble	-	1	0.3	-	-	-
53	18	-	E	15	-	B	02	-	-	-	-	Debitage	Quartz	Flake Fragments	Absent	-	1	0.4	-	-	-
54	19	-	E	15	-	B	05	-	-	-	-	Debitage	Quartz	Flake Fragments	Absent	-	1	0.1	-	-	-
54	20	-	E	15	-	B	05	-	-	-	-	Fire-cracked Rock Note:A JASPER PEBBLE CRACKED IN TWO PLACES; NOT HEAT-ALTERED.	Jasper	-	-	-	1	4.7	-	-	-
55	22	-	E	15	-	B	06	-	-	-	-	Debitage	Quartz	Block Shatter	Absent	-	1	0.5	-	-	-
55	21	-	E	15	-	B	06	-	-	-	-	Debitage	Chert	Early Reduction Flakes	Absent	-	1	0.5	-	-	-
56	23	-	E	15	-	B	08	-	-	-	-	Debitage	Quartz	Block Shatter	Absent	-	1	0.4	-	-	-

CAT#	Row#	TRSCT	LOC	UNIT	STP	STR	LEV	FEA	FEA QAD	ART#	CMTS	CLASS	MATERIAL	TYPE	CORTEX	COND	COUNT	WEIGHT	LENGTH	WIDTH	THICKNS
57	24	-	E	15	-	C	11	-	-	-	-	Debitage	Jasper	Flake Fragments	Absent	-	1	0.2	-	-	-
58	25	-	E	15	-	C	12	-	-	-	-	Debitage Note:POSSIBLE PRESSURE FLAKE.	Chert	Flake Fragments	Absent	-	1	0.1	-	-	-
59	26	-	E	16	-	B	02	-	-	-	-	Fire-cracked Rock Note:A JASPER PEBBLE.	Jasper	-	-	-	1	5.6	-	-	-
60	28	-	E	16	-	B	03	-	-	-	-	Debitage	Quartzite	Block Shatter	Absent	-	1	22.9	-	-	-
60	29	-	E	16	-	B	03	-	-	-	-	Debitage	Quartzite	Block Shatter	Cobble	-	1	9.5	-	-	-
60	27	-	E	16	-	B	03	-	-	-	-	Debitage	Jasper	Early Reduction Flakes	Absent	-	1	2.5	-	-	-
61	30	-	E	16	-	B	04	-	-	-	-	Debitage	Quartzite	Early Reduction Flakes	Absent	-	2	7.2	-	-	-
61	31	-	E	16	-	B	04	-	-	-	-	Debitage	Quartzite	Flake Fragments	Absent	-	1	0.8	-	-	-
61	32	-	E	16	-	B	04	-	-	-	-	Debitage	Quartzite	Flake Shatter	Cobble	-	1	0.1	-	-	-
62	35	-	E	16	-	B	05	-	-	-	-	Debitage	Jasper	Block Shatter	Cobble	-	2	0.4	-	-	-
62	33	-	E	16	-	B	05	-	-	-	-	Debitage	Jasper	Decortication Flakes	Cobble	-	1	1.7	-	-	-
62	34	-	E	16	-	B	05	-	-	-	-	Debitage	Quartzite	Early Reduction Flakes	Absent	-	1	0.3	-	-	-
62	36	-	E	16	-	B	05	-	-	-	-	Debitage	Jasper	Flake Shatter	Cobble	-	1	0.1	-	-	-
64	37	-	E	17	-	A	01	-	-	-	-	Fire-cracked Rock	Sandstone	-	-	-	1	331.7	-	-	-
65	83	-	E	17	-	B	03	-	-	-	-	Debitage Note:POSSIBLE FLAKE.	Quartzite	Early Reduction Flakes	Cobble	-	1	0.5	-	-	-
65	82	-	E	17	-	B	03	-	-	-	-	Fire-cracked Rock	Quartzite	-	-	-	1	18.1	-	-	-

CAT#	Row#	TRSCT	LOC	UNIT	STP	STR	LEV	FEA	FEA QAD	ART#	CMTS	CLASS	MATERIAL	TYPE	CORTEX	COND	COUNT	WEIGHT	LENGTH	WIDTH	THICKNS
65	81	-	E	17	-	B	03	-	-	-	-	Fire-cracked Rock	Sandstone	-	-	-	1	33.6	-	-	-
66	85	-	E	18	-	A	01	-	-	-	-	Debitage	Quartzite	Block Shatter	Cobble	-	1	6.4	-	-	-
66	84	-	E	18	-	A	01	-	-	-	-	Debitage	Quartzite	Decortication Flakes	Cobble	-	1	2.4	-	-	-
67	87	-	E	18	-	B	02	-	-	-	-	Debitage	Jasper	Block Shatter	Cobble	-	2	0.5	-	-	-
67	86	-	E	18	-	B	02	-	-	-	-	Debitage	Jasper	Early Reduction Flakes	Cobble	-	1	1.	-	-	-
67	88	-	E	18	-	B	02	-	-	-	-	Fire-cracked Rock	Quartzite	-	-	-	2	14.2	-	-	-
68	89	-	E	18	-	B	03	-	-	-	-	Debitage	Jasper	Decortication Flakes	Cobble	-	1	9.	-	-	-
68	90	-	E	18	-	B	03	-	-	-	-	Fire-cracked Rock	Quartz	-	-	-	1	2.3	-	-	-
70	93	-	E	19	-	A	01	-	-	-	-	Debitage	Jasper	Biface Reduction Flakes	Absent	-	2	0.5	-	-	-
71	91	-	E	19	-	B	02	-	-	-	-	Debitage	Jasper	Biface Reduction Flakes	Absent	-	1	0.1	-	-	-
71	92	-	E	19	-	B	02	-	-	-	-	Debitage	Quartz	Early Reduction Flakes	Absent	-	1	0.5	-	-	-
72	94	-	E	19	-	B	03	-	-	-	-	Debitage	Jasper	Decortication Flakes	Cobble	-	1	1.4	-	-	-
72	95	-	E	19	-	B	03	-	-	-	-	Debitage	Jasper	Early Reduction Flakes	Cobble	-	1	0.7	-	-	-
72	96	-	E	19	-	B	03	-	-	-	-	Debitage	Jasper	Flake Fragments	Absent	-	1	0.1	-	-	-
73	97	-	E	19	-	B	04	-	-	-	-	Debitage	Jasper	Biface Reduction Flakes	Absent	-	3	0.6	-	-	-
73	100	-	E	19	-	B	04	-	-	-	-	Debitage	Jasper	Block Shatter	Absent	-	1	0.2	-	-	-

CAT#	Row#	TRSCT	LOC	UNIT	STP	STR	LEV	FEA	FEA QAD	ART#	CMTS	CLASS	MATERIAL	TYPE	CORTEX	COND	COUNT	WEIGHT	LENGTH	WIDTH	THICKNS
73	99	-	E	19	-	B	04	-	-	-	-	Debitage	Jasper	Flake Fragments	Absent	-	1	0.3	-	-	-
73	102	-	E	19	-	B	04	-	-	-	-	Debitage	Quartz	Flake Fragments	Absent	-	1	0.5	-	-	-
73	101	-	E	19	-	B	04	-	-	-	-	Debitage Note:POT LID.	Jasper	Other Flake Types	Cobble	-	1	0.2	-	-	-
73	98	-	E	19	-	B	04	-	-	-	-	Debitage	Jasper	Pressure Flakes	Absent	-	1	0.1	-	-	-
74	104	-	E	19	-	B	05	-	-	-	-	Debitage	Jasper	Biface Reduction Flakes	Absent	-	3	0.4	-	-	-
74	108	-	E	19	-	B	05	-	-	-	-	Debitage	Jasper	Biface Reduction Flakes	Absent	-	1	0.3	-	-	-
74	105	-	E	19	-	B	05	-	-	-	-	Debitage	Jasper	Early Reduction Flakes	Block	-	1	0.2	-	-	-
74	106	-	E	19	-	B	05	-	-	-	-	Debitage	Jasper	Flake Fragments	Cobble	-	1	0.1	-	-	-
74	107	-	E	19	-	B	05	-	-	-	-	Debitage Note:POT LID.	Jasper	Other Flake Types	Cobble	-	1	0.1	-	-	-
74	103	-	E	19	-	B	05	-	-	-	-	Debitage	Jasper	Pressure Flakes	Absent	-	3	0.3	-	-	-
76	109	-	E	20	-	B	02	-	-	-	-	Debitage	Jasper	Flake Fragments	Absent	-	2	0.3	-	-	-
77	110	-	E	20	-	B	03	-	-	-	-	Debitage Note:POT LID.	Jasper	Other Flake Types	Cobble	-	1	0.7	-	-	-
78	111	-	E	20	-	B	04	-	-	-	-	Debitage	Jasper	Biface Reduction Flakes	Absent	-	2	0.4	-	-	-
79	112	-	E	20	-	B	05	-	-	-	-	Debitage	Jasper	Biface Reduction Flakes	Absent	-	1	0.3	-	-	-
79	114	-	E	20	-	B	05	-	-	-	-	Debitage	Jasper	Block Shatter	Cobble	-	1	2.	-	-	-
79	113	-	E	20	-	B	05	-	-	-	-	Debitage	Jasper	Flake Fragments	Absent	-	1	0.1	-	-	-

CAT#	Row#	TRSCT	LOC	UNIT	STP	STR	LEV	FEA	FEA QAD	ART#	CMTS	CLASS	MATERIAL	TYPE	CORTEX	COND	COUNT	WEIGHT	LENGTH	WIDTH	THICKNS
80	116	-	E	20	-	C	06	-	-	-	-	Debitage	Jasper	Block Shatter	Absent	-	1	0.2	-	-	-
80	115	-	E	20	-	C	06	-	-	-	-	Debitage	Jasper	Pressure Flakes	Absent	-	2	0.2	-	-	-
81	117	-	E	21	-	A	01	-	-	-	-	Debitage	Chert	Biface Reduction Flakes	Absent	-	1	0.5	-	-	-
84	118	-	E	22	-	A	01	-	-	-	-	Debitage	Jasper	Early Reduction Flakes	Block	-	1	0.2	-	-	-
86	119	-	E	22	-	B	03	-	-	-	-	Fire-cracked Rock	Quartzite	-	-	-	1	50.2	-	-	-
94	40	-	E	22	-	C	04	-	-	-	-	Debitage	Quartzite	Early Reduction Flakes	Absent	-	1	2.1	-	-	-
88	121	-	E	23	-	A	02	-	-	-	6	Bifaces Note:HEAT-DAMAGE.	Jasper	Projectile Points	Absent	BRK	1	5.3	41.4	-	-
88	120	-	E	23	-	A	02	-	-	-	-	Fire-cracked Rock	Sandstone	-	-	-	1	22.8	-	-	-
89	122	-	E	23	-	B	02	-	-	-	-	Debitage	Jasper	Decortication Flakes	Cobble	-	1	1.5	-	-	-
90	123	-	E	23	-	B	03	-	-	-	-	Fire-cracked Rock	Sandstone	-	-	-	1	49.2	-	-	-
91	124	-	E	23	-	B	04	-	-	-	-	Fire-cracked Rock	Sandstone	-	-	-	2	213.5	-	-	-
92	38	-	E	23	-	B	05	-	-	-	-	Debitage	Quartzite	Block Shatter	Absent	-	1	12.8	-	-	-
93	39	-	E	24	-	A	01	-	-	-	-	Fire-cracked Rock Note:FIRE-CRACKED JASPER PEBBLE, FRAGMENT.	Jasper	-	-	-	1	5.7	-	-	-

FORD FARM site/Accsn#: Non-site / 98/0011

CAT#	Row#	TRSCT	LOC	UNIT	STP	STR	LEV	FEA	FEA QAD	ART#	CMTS	CLASS	MATERIAL	TYPE	CORTEX	COND	COUNT	WEIGHT	LENGTH	WIDTH	THICKNS
15 BASIN-1	2	D	-	-	06	A	-	-	-	-	-	Debitage	Jasper	Block Shatter	Cobble	-	2	1.3	-	-	-
10 BASIN-3	1	M	-	-	02	A	-	-	-	-	-	Debitage	Quartz	Early Reduction Flakes	Cobble	-	1	1.1	-	-	-

WETLAND REPLACEMENT AREA 2 *** PREHISTORIC LITHICS INVENTORY

Wetland Replacement Area 2 - Site 7K-C-388 / 99/0021

CAT#	Row#	TRSCT	STP	STR	ART#	CMTS	CLASS	MATERIAL	TYPE	CORTEX	COND	COUNT	WEIGHT	LENGTH	WIDTH	THICKNESS
14	4	A	07c	A	-	-	Debitage	Quartzite	Decortication Flakes	Absent	-	1	0.3	-	-	-
5	1	H	01	C	-	-	Debitage	Quartz	Flake Fragments	Absent	-	1	0.2	-	-	-
7	3	H	01a	A	-	-	Debitage	Quartz	Block Shatter	Absent	-	1	9.1	-	-	-
6	2	H	01a	B	-	-	Bifaces	Jasper	Early-Stage Bifaces	Cobble	BRK	1	14.9	-	-	-
								Note:BROKEN PIECE OF EARLY-STAGE BIFACE UTILIZED AS A SCRAPER OR CUTTING TOOL.								

WETLAND REPLACEMENT AREA 2 *** PREHISTORIC POTTERY INVENTORY

Wetland Replacement Area 2 - Site 7K-C-388 / 99/0021

CAT#	TRSCT	STP	STR	ART#	CMTS	FORM	TEMPER	SURFACE EXT.	SURFACE INT.	DECOR.EXT.	DECOR.INT.	COUNT	WEIGHT	THICKNESS
16	A	07d	B	-	-	Crumb	-	-	-	-	-	6	2.5	-

APPENDIX C

HISTORIC ARTIFACT INVENTORY FROM SITE 7K-C-386E AND PHASE I SURVEY AREAS

FORD FARM Site/Accsn# 7K-C-386e /97/0018 - Historic Inventory

CAT#	Row#	PHS	LOC	UNIT	TRS	STP	STR	LEV	FEA	FEA QUAD	ARTIFACT DESCRIPTION	COUNT	WEIGHT	BEG. DATE	END. DATE	MATERIAL	FORM ELEMENT	COLOR	PATTERN ANALYSIS	
2	1	2	E	-	-	05	A	-	-	-	Bolt	1	-	-	-	Ferrous Metal	-	-	Activities	Activities - Other
6	1	2	E	-	-	08	A	-	-	-	Pearlware - Transfer Printed - Blue, with Stipple Function:Unidentified	1	-	1800	1840	-	Misc. Hollowware Body	-	Kitchen	Ceramics
8	1	2	E	-	-	15	A	-	-	-	Redware - Brown Glaze Function:Unidentified	1	-	-	-	-	Body-General	-	Kitchen	Ceramics
8	1	2	E	-	-	15	A	-	-	-	Brick	-	0.001	-	-	Ceramic	-	-	Architecture	Misc. Building Materials/Floor Covering/Roofing Materials
9	1	2	E	01	-	-	A	02	-	-	Redware - Black Glaze Function:Unidentified	1	-	-	-	-	Body-General	-	Kitchen	Ceramics
9	3	2	E	01	-	-	A	02	-	-	Pearlware - Plain Function:Unidentified	1	-	1775	1840	-	Body-General	-	Kitchen	Ceramics
9	2	2	E	01	-	-	A	02	-	-	Whiteware - Transfer Printed - Black Function:Unidentified	1	-	1815	1915	-	Misc. Flatware Body	-	Kitchen	Ceramics
9	1	2	E	01	-	-	A	02	-	-	Oyster	-	0.001	-	-	-	Shell	-	Faunal	Faunal/Floral Domestic/Exploited
10	1	2	E	01	-	-	A	03	-	-	Total Unidentified Glass/General Function:Not Assigned	1	-	-	-	-	-	Clear (or White)	Kitchen	Kitchen - Other
10	2	2	E	01	-	-	A	03	-	-	Broad Glass	-	0.004	1820	1926	Glass	-	-	Architecture	Window Glass/Caming/Etc.
10	1	2	E	01	-	-	A	03	-	-	Unidentified Metal	1	-	-	-	Ferrous Metal	-	-	-	-
11	1	2	E	02	-	-	A	03	-	-	Total Unidentified Glass/General Function:Not Assigned	1	-	1880	1915	-	-	Amethyst Tint (or Solarized)	Kitchen	Kitchen - Other

Note: DATED MUNSEY 1970:55.

FORD FARM Site/Accsn# 7K-C-386e /97/0018 - Historic Inventory

CAT#	Row#	PHS	LOC	UNIT	TRS	STP	STR	LEV	FEA	FEA QUAD	ARTIFACT DESCRIPTION	COUNT	WEIGHT	BEG. DATE	END. DATE	MATERIAL	FORM ELEMENT	COLOR	PATTERN ANALYSIS	
11	1	2	E	02	-	-	A	03	-	-	Oyster	-	0.001	-	-	-	Shell	-	Faunal	Faunal/Floral Domestic/Exploited
12	20	2	E	03	-	-	A	01	-	-	Redware - Dark Brown Glaze	1	-	-	-	-	-	-	-	-
12	1	2	E	03	-	-	A	01	-	-	Unidentified Bottle/General	3	-	1889	-	-	-	Brown/Amber /Honey	Kitchen	Bottles
											Function:Misc. Bottle - Other				Note: BEGDATE AS PER JONES & SULLIVAN 1985:39.					
12	1	2	E	03	-	-	A	01	-	-	Fork	2	-	-	-	Silver	-	-	Kitchen	Tableware(flatware - spoons, forks, knives, etc.)
13	1	2	E	03	-	-	A	02	-	-	Total Unidentified Glass/General	2	-	-	-	-	-	Clear (or White)	Kitchen	Kitchen - Other
											Function:Not Assigned									
13	1	2	E	03	-	-	A	02	-	-	Modern Window Glass	-	0.001	-	-	Glass	-	-	Architecture	Window Glass/Caming/ Etc.
17	1	2	E	04	-	-	A	01	-	-	Beer	15	-	1889	-	-	-	Brown/Amber /Honey	Kitchen	Bottles
											Function:Malt				Note: BEGDATE AS PER JONES & SULLIVAN 1985:39.					
19	1	2	E	04	-	-	A	03	-	-	Total Unidentified Glass/General	1	-	-	-	-	-	Clear (or White)	Kitchen	Kitchen - Other
											Function:Not Assigned									
33	1	2	E	09	-	-	A	02	-	-	Total Unidentified Glass/General	1	-	1880	1915	-	-	Amethyst Tint (or Solarized)	Kitchen	Kitchen - Other
											Function:Not Assigned				Note: DATED MUNSEY 1970:55.					
62	1	2	E	16	-	-	B	05	-	-	Walnut	2	0.5	-	-	-	Nutshell	-	Floral	Faunal/Floral Domestic/Exploited
68	1	2	E	18	-	-	B	03	-	-	Total Unidentified Glass/General	1	-	-	-	-	-	Clear (or White)	Kitchen	Kitchen - Other
											Function:Not Assigned									
87	1	2	E	23	-	-	A	01	-	-	Beer	2	-	1889	-	-	-	Brown/Amber /Honey	Kitchen	Bottles
											Function:Malt				Note: BEGDATE AS PER JONES & SULLIVAN 1985:39.					
87	2	2	E	23	-	-	A	01	-	-	Beverage/General	1	-	1889	-	-	-	Emerald Green/Teal	Kitchen	Bottles
											Function:Misc. Beverage				Note: BEGDATE AS PER JONES & SULLIVAN 1985:39.					

FORD FARM Site/Accsn# 7K-C-386e /97/0018 - Historic Inventory

CAT#	Row#	PHS	LOC	UNIT	TRS	STP	STR	LEV	FEA	FEA QUAD	ARTIFACT DESCRIPTION	COUNT	WEIGHT	BEG. DATE	END. DATE	MATERIAL	FORM ELEMENT	COLOR	PATTERN ANALYSIS	
87	1	2	E	23	-	-	A	01	-	-	Whetstone	-	-	-	-	Stone	-	-	Activities	Hand Tools

FORD FARM Site/Accsn# Non-Site /98/0011

CAT#	Row#	PHS	LOC	UNIT	TRS	STP	STR	LEV	FEA	FEA QUAD	ARTIFACT DESCRIPTION	COUNT	WEIGHT	BEG. DATE	END. DATE	MATERIAL	FORM ELEMENT	COLOR	PATTERN ANALYSIS	
1	1	1	-	-	A	02	A	-	-	-	Unidentified Bottle/General Function:Misc. Bottle - Other	1	-	-	-	-	-	Brown/Amber /Honey	Kitchen	Bottles
BASIN-1																				
7	1	1	-	-	B	01	A	-	-	-	Brick	-	0.002	-	-	Ceramic	-	-	Architecture	Misc. Building Materials/Floor Covering/Roofing Materials
BASIN-2																				
2	1	1	-	-	B	03	A	-	-	-	Unidentified Nail	1	-	-	-	Ferrous Metal	-	-	Architecture	Nails, Spikes, Tacks, etc., and Misc. Constr. Hardware
BASIN-1																				
3	1	1	-	-	C	01	A	-	-	-	Unidentified Bottle/General Function:Misc. Bottle - Other	1	-	-	-	-	-	Brown/Amber /Honey	Kitchen	Bottles
BASIN-1																				
4	2	1	-	-	C	02	A	-	-	-	Unidentified Bottle/General Function:Misc. Bottle - Other	1	-	1889	-	-	-	Emerald Green/Teal	Kitchen	Bottles
BASIN-1																Note: BEGDATE AS PER JONES & SULLIVAN 1985:39.				
4	1	1	-	-	C	02	A	-	-	-	Total Unidentified Glass/General Function:Not Assigned	1	-	-	-	-	-	Clear (or White)	Kitchen	Kitchen - Other
BASIN-1																				
4	1	1	-	-	C	02	A	-	-	-	Brick	-	0.002	-	-	Ceramic	-	-	Architecture	Misc. Building Materials/Floor Covering/Roofing Materials
BASIN-1																				

FORD FARM Site/Accsn# Non-Site /98/0011 - Historic Inventory

CAT#	Row#	PHS	LOC	UNIT	TRS	STP	STR	LEV	FEA	FEA QUAD	ARTIFACT DESCRIPTION	COUNT	WEIGHT	BEG. DATE	END. DATE	MATERIAL	FORM ELEMENT	COLOR	PATTERN ANALYSIS	
5	1	1	-	-	C	03	A	-	-	-	Stoneware Pipe	1	-	-	-	Stoneware	-	-	Architecture	Plumbing/Toilet/Sink Fixtures
BASIN-1																				
11	1	1	-	-	D	01	A	-	-	-	Unidentified Bottle/General Function:Misc. Bottle - Other	11	-	-	-	-	-	Brown/Amber /Honey	Kitchen	Bottles
BASIN-1																				
11	2	1	-	-	D	01	A	-	-	-	Total Unidentified Glass/General Function:Not Assigned	1	-	-	-	-	-	Clear (or White)	Kitchen	Kitchen - Other
BASIN-1																				
11	1	1	-	-	D	01	A	-	-	-	Styrofoam	1	-	-	-	Styrofoam	-	-	-	-
BASIN-1																				
11	2	1	-	-	D	01	A	-	-	-	Charcoal	-	0.002	-	-	Coal	-	-	Activities	Heating-related
BASIN-1																				
12	2	1	-	-	D	01	B	-	-	-	Charred Wood	-	0.001	-	-	Wood	-	-	Activities	Heating-related
BASIN-1																				
13	1	1	-	-	D	02	A	-	-	-	Total Unidentified Glass/General Function:Not Assigned	1	-	-	-	-	-	Clear (or White)	Kitchen	Kitchen - Other
BASIN-1																				
14	1	1	-	-	D	04	A	-	-	-	Modern Window Glass	-	0.002	-	-	Glass	-	-	Architecture	Window Glass/Caming/Etc.
BASIN-1																				
15	3	1	-	-	D	06	A	-	-	-	Machine Cut/Wrought Nail	2	-	-	-	Ferrous Metal	-	-	Architecture	Nails, Spikes, Tacks, etc., and Misc. Constr. Hardware
BASIN-1																				
15	2	1	-	-	D	06	A	-	-	-	Unidentified Metal	1	-	-	-	Ferrous Metal	-	-	-	-
BASIN-1																				
15	1	1	-	-	D	06	A	-	-	-	Plastic	1	-	-	-	Plastic	-	-	-	-
BASIN-1																				
8	1	1	-	-	K	03	A	-	-	-	Unidentified Bottle/General Function:Misc. Bottle - Other	1	-	1880	1915	-	-	Amethyst Tint (or Solarized)	Kitchen	Bottles
BASIN-2											Note: DATED MUNSEY 1970:55.									

Wetland Replacement Area 2 - Site 7K-C-388 /99/0021

CAT#	Row#	PHS	TRS	STP	STR	TYPE	COUNT	WEIGHT	ARTIFACT DESCRIPTION	BEG. DATE	END. DATE	MATERIAL	FORM ELEMENT	COLOR	PATTERN ANALYSIS	
1	1	1	A	06	B	CER61	1	-	Redware - Dark Brown Glaze	-	-	-	Misc. Hollowware Body	-	Kitchen	Ceramics
									Function:Unidentifiable							
1	1	1	A	06	B	SOS 1	1	-	Unidentified Metal	-	-	Ferrous Metal	-	-	-	-
2	1	1	A	07	A	CER63	1	-	Redware - Light Brown Glaze	-	-	-	Misc. Hollowware Body	-	Kitchen	Ceramics
									Function:Unidentifiable							
2	2	1	A	07	A	CPJ 2	1	-	Hard Paste Porcelain - Plain	-	-	-	Body-General	-	Kitchen	Ceramics
									Function:Unidentifiable							
12	1	1	A	07a	A	CRP 2	1	-	Pearlware - Plain	1775	1840	-	Body-General	-	Kitchen	Ceramics
									Function:Unidentifiable							
13	2	1	A	07b	A	CER 1	2	-	Redware - Ungiazed	-	-	-	Body-General	-	Kitchen	Ceramics
									Function:Unidentifiable							
13	1	1	A	07b	A	CER63	2	-	Redware - Light Brown Glaze	-	-	-	Misc. Hollowware Body	-	Kitchen	Ceramics
									Function:Unidentifiable							
13	1	1	A	07b	A	GOU 1	2	-	Total Unidentified Glass/General	-	-	-	-	Clear (or White)	Kitchen	Kitchen - Other
									Function:Not Assigned							
14	2	1	A	07c	A	CRC60	1	-	Creamware - Dipped - General	1770	1860	-	Misc. Hollowware Body	-	Kitchen	Ceramics
									Function:Unidentifiable							
14	1	1	A	07c	A	CRP10	1	-	Pearlware - Shell Edge - Blue	1800	1850	-	Plate-Unidenti fied Diameter	-	Kitchen	Ceramics
									Function:Tablewares							
14	3	1	A	07c	A	SAB27	-	0.014	Cement/Concrete	-	-	Cement/Conc rete	-	-	Architecture	Misc. Building Materials/Floor Covering/Roofing Materials

Wetland Replacement Area 2 - Site 7K-C-388 /99/0021

CAT#	Row#	PHS	TRS	STP	STR	TYPE	COUNT	WEIGHT	ARTIFACT DESCRIPTION	BEG. DATE	END. DATE	MATERIAL	FORM ELEMENT	COLOR	PATTERN ANALYSIS	
14	2	1	A	07c	A	SAB45	2	-	Asphalt Roofing Tile	-	-	Asphalt	-	-	Architecture	Misc. Building Materials/Floor Covering/Roofing
14	1	1	A	07c	A	SAF 3	2	-	Machine Cut Nail - 'Modern'	1830	-	Ferrous Metal	-	-	Architecture	Nails, Spikes, Tacks, etc., and Misc. Constr. Hardware
14	4	1	A	07c	A	SOS12	1	-	Rubber	-	-	Rubber	-	-	-	-
													Note: TRACE OF WHITE PAINT ON OUTSIDE.			
15	1	1	A	07d	A	CRC 2	2	-	Creamware - Plain	1762	1820	-	Body-General	-	Kitchen	Ceramics
										Function:Unidentifiable						
15	2	1	A	07d	A	CRP61	1	-	Pearlware - Dipped - Mocha	1790	1890	-	Misc. Hollowware Body	-	Kitchen	Ceramics
										Function:Unidentifiable						
15	1	1	A	07d	A	SDA21	1	-	Spoon	-	-	Plastic	-	-	Kitchen	Tableware(flatware - spoons, forks, knives, etc.
16	1	1	A	07d	B	SAB 1	-	0.004	Brick	-	-	Ceramic	-	-	Architecture	Misc. Building Materials/Floor Covering/Roofing Materials
17	1	1	A	08	A	GBU 1	1	-	Unidentified Bottle/General	1889	-	-	-	Brown/Amber/Honey	Kitchen	Bottles
										Function:Misc. Bottle - Other				Note: BEGDATE AS PER JONES & SULLIVAN 1985:39.		
3	1	1	C	02	A	PTE98	1	-	Pipe Bowls - Unidentified Shape Bowl	-	-	-	-	-	Tobacco Pipes	White Clay Pipes
18	1	1	C	02c	A	SAF 6	1	-	Wire Nail	1850	-	Ferrous Metal	-	-	Architecture	Nails, Spikes, Tacks, etc., and Misc. Constr. Hardware
4	1	1	E	06a	A	CER61	1	-	Redware - Dark Brown Glaze	-	-	-	Misc. Hollowware Body	-	Kitchen	Ceramics
										Function:Unidentifiable						
4	1	1	E	06a	A	GOU 1	1	-	Total Unidentified Glass/General	-	-	-	-	Clear (or White)	Kitchen	Kitchen - Other
										Function:Not Assigned						

Wetland Replacement Area 2 - Site 7K-C-388 /99/0021

CAT#	Row#	PHS	TRS	STP	STR	TYPE	COUNT	WEIGHT	ARTIFACT DESCRIPTION	BEG. DATE	END. DATE	MATERIAL	FORM ELEMENT	COLOR	PATTERN ANALYSIS	
7	1	1	H	01a	A	GOU 1	2	-	Total Unidentified Glass/General	-	-	-	-	Clear (or White)	Kitchen	Kitchen - Other
									Function:Not Assigned							
8	1	1	H	01c	A	SAB 1	-	0.001	Brick	-	-	Ceramic	-	-	Architecture	Misc. Building Materials/Floor Covering/Roofing Materials
9	1	1	H	01d	A	SAB 1	-	0.02	Brick	-	-	Ceramic	-	-	Architecture	Misc. Building Materials/Floor Covering/Roofing Materials
10	2	1	H	02	A	CRD11	1	-	Delftware - White Glaze w/ Blue Decoration - General	1640	1800	-	Misc. Hollowware Body	-	Kitchen	Ceramics
									Function:Unidentifiable							
10	1	1	H	02	A	CRP 2	1	-	Pearlware - Plain	1775	1840	-	Body-General	-	Kitchen	Ceramics
									Function:Unidentifiable							
11	1	1	H	07	A	SAB 1	-	0.001	Brick	-	-	Ceramic	-	-	Architecture	Misc. Building Materials/Floor Covering/Roofing Materials
19	1	1	J	01	A	CER63	1	-	Redware - Light Brown Glaze	-	-	-	Body-General	-	Kitchen	Ceramics
									Function:Unidentifiable							
20	1	1	J	02	A	GOU 2	1	-	Total Unidentified Glass/Melted	-	-	-	-	N/A (Obscured Due to Devitrification)	Kitchen	Kitchen - Other
									Function:Not Assigned							
21	1	1	K	01	C	SAB 1	-	0.008	Brick	-	-	Ceramic	-	-	Architecture	Misc. Building Materials/Floor Covering/Roofing Materials

APPENDIX D

ANALYSIS OF FLOTATION SAMPLES FROM FORD FARM

Results of Analysis: Flotation-Recovered Botanical Remains From the Ford Farm Site (7K-C-386E)

by Justine McKnight

Introduction:

A single soil sample from the Ford Farm Site (7K-C-386E) was selected for flotation-processing and macrofloral analysis. Three liters of cultural fill were retained from Excavation Unit 21 (Stratum D, Level 15).

Methods:

The Ford Farm flotation sample was obtained from unscreened fill collected from across the base of the stratigraphic level. The soil sample was thoroughly dried and was then packed for in a vinyl bag for storage.

The soil sample was processed using a Flote-Tech machine-assisted flotation system equipped with 0.325 mm fine fraction and 1.0 mm coarse fraction screens. The Flote-Tech system is a multi-modal flotation system which facilitates the separation and recovery of plant remains from the soil matrix via agitation in water combined with forced air delivered through submerged pipes. Processing resulted in two size fractions (heavy and light). The flotation processing was conducted indoors using tap water and electricity from a 110-volt outlet. The resulting floated portions were air dried.

All carbonized plant remains recovered through flotation were combined and passed through a 2 mm geological sieve, yielding fractions of two different sizes for analysis. Weights and sample descriptions of the resulting specimens greater than or equal to 2 mm and less than 2 mm were recorded. The charcoal specimens that were greater than or equal to 2 mm were examined under low magnification (10X to 30X) and sorted into general categories of material (i.e., wood, amorphous charcoal, etc.). Description, count, and weight were taken for each category of the material in the greater than or equal to 2 mm size range. The fractions of the less than 2 mm size were examined under low magnification, generally described, and scanned for the remains of seeds and cultivated plants.

Identifications were routinely attempted on all miscellaneous plant remains recovered, and on a sub-sample of twenty randomly selected wood fragments from the sample, in accordance with standard practice (Pearsall 1989). Identifications of all classes of botanical remains were made to the genus level when possible, to the family level when limited diagnostic morphology was available, and to the species level only when the assignment could be made with absolute certainty. When botanical specimens were found to be in such eroded or fragmentary condition as to prevent their complete examination or recognition, a variety of general categories were used to reflect the degree of identification possible. General wood categories within the Ford Farm Site assemblage include *ring porous*, where specimens exhibited differences between early and late wood growth, *deciduous taxa*,

where specimens could be identified as having a porous vessel arrangement reflecting deciduous trees rather than a trachid arrangement indicative of coniferous taxa, and *unidentifiable*, where specimens were so minute or eroded that identification was impossible. The category *amorphous carbon* is used in this report to classify carbonized vegetative remains which lacked any suitable characteristics whatsoever upon which to base identification.

All identifications were made under low magnification (10X to 30X) with the aide of standard texts (Hoadley 1990; Panshin and deZeeuw 1970), and checked against plant specimens from a modern reference collection representative of the flora of Kent County, Delaware. Specimens were weighed using an electronic balance accurate to 0.01 grams.

Results of Analysis:

The archaeobotanical assemblage from the Ford Farm Site contained abundant carbonized plant remains. Flotation processing of 3 liters of soil resulted in the recovery of 5.05 grams of charcoal, or an average density of 1.68 grams of charcoal per liter. Recovered plant remains include native deciduous wood, unidentifiable rind-like fragments, and amorphous charcoal. Table D1 presents an inventory of flotation-recovered plant remains from the Ford Farm Site.

Wood charcoal was the most abundant class of plant remain recovered. A total of 322 carbonized wood fragments weighing 4.70 grams was recovered. The identified wood sub-sample revealed the presence (in order of abundance) of white oak *(Quercus sp.) (LEUCOBALANUS group)* (30 percent of the identified sub-sample, by count) and red oak *(Quercus sp.) (ERYTHROBALANUS group) (15 percent)*. Highly fragmented wood specimens were assigned to the categories *ring porous* (20 percent), *deciduous taxa* (15 percent), and *unidentifiable* (20 percent). The oak species identified within the site assemblage would have been common to the mixed hardwood forest native to Delaware's Coastal Plain (Eyre 1980; Tatnall 1946).

Miscellaneous plant-related materials included 2 fragments of rind-like material weighing 0.04 grams. These specimens measured approximately 2.5 mm in thickness, and possessed a lightly striated outer surface. Eleven fragments of amorphous carbon weighing 0.31 grams were also recovered.

Summary and Recommendations:

This analysis of flotation samples from the Ford Farm Site documents the persistence of plant macro-fossils within cultural sediments, evidences a reliance on locally available high-calorie fuel resources, and supports our knowledge of the composition of local forests during the Woodland I period. However, the data at hand provide only a very incomplete picture of the relationship between prehistoric populations and available plant resources during this time of prehistory. Overall, carbonized plant macro-fossils were abundant, but not diverse, and their condition was fair. No edible plant remains were recovered within the analyzed flotation sample, but this may simply be a result of the limited sample size. Regardless, these results from the Ford Farm Site do not advance

a very rigorous interpretation of subsistence practices, patterns of plant utilization, or paleo-environmental conditions during the Woodland I period.

Table D1: Flotation-Recovered Plant Remains from the Ford Farm Site (7K-C-386E)

		Unit 21, Stratum D, Level 15
Soil Sample Volume (liters)		3
Total Weight Carbonized Remains (grams)		5.05
Wood Charcoal	total count	322
	total weight	4.70 grams
Quercus sp. (white oak group)		6
Quercus sp. (red oak group)		3
Ring Porous		4
Deciduous		3
Unidentifiable		4
Unidentifiable Rind Fragment		2 (0.04 grams)
Amorphous Carbon		11 (0.31 grams)

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Panshin, Alexis, and Carl deZeeuw
1970 *Textbook of Wood Technology.* Volume 1, 3rd edition. McGraw Hill, New York.

Pearsall, D.
1989 *Paleoethnobotany: A Handbook of Procedures.* Academic Press, San Diego.

Tatnall, Robert R.
1946 *Flora of Delaware and the Eastern Shore.* The Society of Natural History of Delaware. Lancaster, Pennsylvania.

APPENDIX E

RESUME OF PRINCIPAL INVESTIGATOR

ROBERT D. WALL
Senior Archaeologist

EDUCATION

- Ph.D., Anthropology, The Catholic University of America, Washington, D.C., 1980
- M.A., Anthropology, The Catholic University of America, Washington, D.C., 1976
- B.A., Anthropology, University of Maryland, College Park, Maryland, 1972
- M.A. Candidate, Geography, Towson State University, Towson, Maryland

PROFESSIONAL AFFILIATIONS

- Society for American Archaeology
- Canadian Archaeological Association
- American Quaternary Association

PROFESSIONAL EXPERIENCE

Dr. Wall has over 20 years of experience in archaeological field investigations in the Middle Atlantic region, with a particular focus on the Susquehanna, Potomac, and Delaware drainages. He has worked in a supervisory capacity on Phase I, II, and III investigations over the last 15 years. These projects have involved large-scale excavations ranging from small lithic scatters and hunting stations to Late Woodland villages and deeply stratified Archaic sites. He has also conducted Phase I level surveys in all physiographic regions of the eastern woodlands, ranging from the Atlantic Coastal Plain to the Appalachian Plateau. Since joining Berger in 1989, Dr. Wall's major projects have included:

- **Ford Farm Site, 7K-C-386E, Kent County, Delaware.** Phase I and II archaeological investigations. For Delaware Department of Transportation.

- **Drawyer Site, 7NC-G-143, New Castle County, Delaware.** Phase III archaeological investigations. For Delaware Department of Transportation.

- **A Synthesis of the Trenton Archaeological Site Complex: The Abbott Farm Prehistoric Sites, Mercer County, Trenton, New Jersey.** For the New Jersey Department of Transportation.

- **Lithic Technology Appendix, Trenton Archaeological Site Complex.** For the New Jersey Department of Transportation.

- **Archaeological Survey of a Portion of Delaware Water Gap National Recreation Area, Pennsylvania and New Jersey (Milford Transect).** For the National Park Service.

- **A Stratified Sequence in the Lower Delaware Valley, Site 28ME1-D, Mercer County, Trenton, New Jersey.** Phase III data recovery. For the Federal Highway Administration and the New Jersey Department of Transportation.

- **Middle and Late Woodland Occupations in the Delaware River Floodplain Site 28ME114 at Sturgeon Pond, State Route 29.** Archaeological data recovery. For the Federal Highway Administration and the New Jersey Department of Transportation.

- **Millersville Site, 18An803, Anne Arundel County, Maryland.** Phase III archaeological investigations. For Anne Arundel County.

- **Sites 18Ag167 and 18Ag168, Allegany County, Maryland.** Phase III archaeological investigations. For the U.S. Department of Justice, Federal Bureau of Prisons.

- **Archaeological Survey of a Portion of Delaware Water Gap National Recreation Area, Pennsylvania and New Jersey (Bushkill Transect).** For the National Park Service.

- **Sudley Road Sanitary Landfill, Anne Arundel County, Maryland**. Phase IB archaeological investigations. For Gershman, Brickner & Bratton, Inc.

- **Millersville Landfill Project, Anne Arundel County, Maryland.** Phase II archaeological investigations. For Gershman, Brickner & Bratton, Inc.

- **Duck Island Wetlands Mitigation Site for the Trenton Complex (I-195/295; Routes NJ 29 and NJ 129), Mercer County, New Jersey.** Phase I archaeological survey. For the New Jersey Department of Transportation, Bureau of Environmental Analysis.

- **Allenwood Federal Correctional Complex, Sanitary Water Treatment Facility, Union County, Pennsylvania.** Phase I and II archaeological investigations. For the U.S. Department of Justice, Federal Bureau of Prisons.

- **Middle Creek Conference and Retreat Center, Adams County, Pennsylvania.** Phase I cultural resources survey. For Martin and Martin, Inc.

- **Quabbin, Ware and Wachusett Watersheds, Franklin, Hampshire, and Worcester Counties, Massachusetts.** Preliminary archaeological survey and resources assessment. For the Metropolitan District Commission.

- **Mifflinville Bridge Replacement, Columbia County, Pennsylvania.** Phase II archaeological investigation. For the Pennsylvania Department of Transportation.

PAST PROFESSIONAL EXPERIENCE

Review Archaeologist for the Pennsylvania SHPO, Bureau for Historic Preservation, Pennsylvania Historical and Museum Commission, Harrisburg.

Staff Archaeologist, Baltimore District, Army Corps of Engineers. Conducted background research, reconnaissance surveys and test excavations for permit applications; monitored consultant investigations on Phase II and III archaeological investigations.

Principal Investigator, Western Maryland Coal Region Project. Conducted an archaeological survey of the Appalachian Plateau region of western Maryland from 1980 to 1983. For the Maryland Geological Survey and the Maryland Historical Trust.

Project Archaeologist, West Patricia Land Use Plan, Historical Planning and Research Branch, Ministry of Culture and Recreation, Northwest Ontario. 1978 to 1980.

PUBLICATIONS

- Archaeological Survey in the Uplands Within the Delaware Water Gap National Recreation Area (with Bradford Botwick). *Journal of Middle Atlantic Archaeology* 10:73-84. 1994.

- Stratigraphy and Sequence in the South Branch of the Upper Potomac, Moorefield and Petersburg, West Virginia. *Journal of Middle Atlantic Archaeology* 9:49-66. 1993.

- Archeological Investigations at the Millersville Site, 18AN803, Anne Arundel County, Maryland. *Maryland Archeology* 29:1-30. 1993.

- Archeology Under The Lake: Test Excavations at 18Ga301 on the Youghiogheny Reservoir. *Maryland Archeology* 29:61-66. 1993.

- Lithic Resource Utilization in Western Maryland Prehistory. *Journal of Middle Atlantic Archaeology*. 1992.

- Test Excavations at the Barton Complex Sites, Allegany County, Maryland (co-authored with Dennis C. Curry). *Maryland Archeology* 28:1:1-12. 1992.

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- Early to Middle Archaic Period Occupations in Western Maryland: A Preliminary Model. *Journal of Middle Atlantic Archaeology* 7:53-65. 1992.

- *An Archeological Study of the Western Maryland Coal Region: The Historic Resources* (co-authored with K.C. Lacoste). Maryland Geological Survey, Baltimore. 1990.

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PAPERS

- GIS as an Analytical Tool in Archaeological Site Excavation. Paper presented at the 11th Annual GIS Conference, Towson University, Towson, Maryland. 1998.

- Application of GIS to Archaeological Site Distributions on the Appalachian Plateau. Paper presented at the 8th Annual GIS Conference, Towson State University, Towson, Maryland. 1995.

- The Contact Period in the Upper Potomac Region: A View from the Llewellyn Site. Paper presented at the 25th Middle Atlantic Archaeological Conference, Ocean City, Maryland. 1995.

- Stratifying Northern Ontario Landscapes: A Predictive Model for Archaeological Site Locations. Paper presented at the Canadian Archaeological Association meetings, London, Ontario. 1990.

APPENDIX F

PUBLIC HANDOUT

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
P.O. BOX 778
DOVER, DELAWARE 19903

IOMAS R. CARPER
GOVERNOR

ARCHAEOLOGICAL EXCAVATIONS AT FORD FARM, DOVER, DELAWARE

Archaeological sites such as the Ford Farm site contain a record of the activities and events that occurred in a particular location in the prehistoric past. These are comparable but far less complex than the small towns, farmsteads, community gathering spots, and individual workshop areas of today. Unlike the written and richly illustrated documents of more recent history, the prehistoric record is comprised of clusters of objects in buried contexts. These objects, which include pottery, fragments of stone tools, bone, and preserved organic remains, were left behind by the inhabitants of a site where such objects were manufactured, used, or consumed. These objects have become the artifacts that archaeologists use to reconstruct what these people ate, what kinds of houses they lived in, what kind of tools they made, and how they conducted their day to day activities. Lacking any writings that can chronicle how these people lived, archaeologists are left with these clusters of artifacts and traces of structures that once stood on the site to assist in reconstructing what actually took place in prehistory.

This information is irreplaceable and lost forever once an archaeological site is destroyed. To avoid such losses, the Delaware Department of Transportation, with the assistance of the Cultural Resource Group of Louis Berger & Associates, Inc., is conducting test excavations to evaluate the quality of the information contained within the Ford Farm site.

The site, which is situated on a bluff overlooking the St. Jones River in Dover, has the potential to contain a series of prehistoric occupations dating back to perhaps as early as 10,000 years ago. Evidence of buried land surfaces has already been found a few meters below the surface of the site. Though no artifacts associated with Indian cultures have been found associated with these early layers, deeply buried stone tool fragments have been found on the site, a rarity in the state of Delaware. There have also been more recent finds of prehistoric pottery, stone tools, cooking hearths, and other cultural remains dating to around 1500 years ago. Preliminary evidence shows that the site may have been a small camp occupied near the bluff edge for the purpose of hunting, fishing, and foraging along the St. Jones River.

The test excavations presently being conducted on the site will be designed to collect additional information concerning how long the site was occupied, which Indian groups lived on the site, and what purpose the site may have served its inhabitants. It may have been a been a hunting or fishing camp used by small groups, or it may have been a more established camp occupied by a larger group for the long term.

After the excavations are completed and the artifacts, features, and environmental information from Ford Farm have been thoroughly analyzed, a report will be prepared for DelDOT and the Delaware State Historic Preservation Office, which interested persons can obtain from DelDOT. The artifacts recovered from the site will be permanently housed at the Delaware State Museum. If you would like additional information concerning the project, please contact Kevin Cunningham, DelDOT archaeologist, at 739-3829, or Dr. Robert Wall of Louis Berger & Associates at 202-331-7775.

DelDOT